A STUDY OF FAIRFAX COUNTY DEPARTMENT OF FAMILY SERVICES' HOME-BASED CARE PROGRAM

FINAL REPORT TO FAIRFAX COUNTY DEPARTMENT OF FAMILY SERVICES

FEBRUARY 27, 2004

PREPARED BY

THE CENTER FOR EXCELLENCE IN AGING AND GERIATRIC HEALTH™

AND

THE COLLEGE OF WILLIAM & MARY

CONTRIBUTORS

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ACKNOWLEDGMENTS

The Center for Excellence in Aging and Geriatric Health would like to express their sincere appreciation to several individuals and groups who helped with the completion of this study. First, we would like to extend our appreciation to Barbara Antley, Elizabeth Shirley, Barry Barr, Kathleen Sebek, Lucy Gerland, Stephanie Clements, and Nikki Thomas-Campbell of the Fairfax County Department of Family Services Adult and Aging Division, for the information they provided throughout the study period. Second, we are grateful to Sherri Thrift who served as technical editor for this report and for research assistant, Wesley Harriss, for her assistance with the informational analysis. Third, we are thankful for the mapping expertise provided by Lathan Dennis of the Fairfax County Geographic Information Systems Department. Also, we wish to recognize and thank the case managers and agency directors who provided valuable information on the surveys. Finally, we wish to thank the many representatives from jurisdictions we interviewed, both locally and nationally, for sharing their experiences in providing home-based care.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

In July 2003, the Fairfax County Department of Family Services contracted with the Center for Excellence in Aging and Geriatric Health and the College of William & Mary to examine their Home-Based Care Program and make recommendations for the future.

Meetings were held with the Department of Family Services-Adult and Aging Division Home-Based Care Program staff to gain an in-depth knowledge of their services; materials submitted by the Department of Family Services were evaluated; surveys and interviews with the case managers and contract agency directors were conducted; and services offered by other jurisdictions, both locally and nationally were reviewed.

From this data and informational analysis, recommendations include:

- The Center for Excellence in Aging and Geriatric Health recently completed a study of the Fairfax County Health Department Bathing and Respite Program and made recommendations for the program's future. A key recommendation was that the Fairfax County Health Department discontinues the Bathing and Respite Program and the Fairfax County Department of Family Services assumes responsibility for their clients. Primary factors contributing to this recommendation include the duplication of services between the two departments, decreasing number of clients served by Fairfax County Health Department and the fact that home-based care services are a core function of the Fairfax County Department of Family Services and not the Health Department.
- The Fairfax County Department of Family Services and the Fairfax County Health Department should collaborate on a transition plan to include a process for the transfer of clients, appropriate funding support and service delivery. A transition plan has been recommended to the Fairfax County Health Department.
- Develop a plan for the Home-Based Care Program, setting goals and objectives to 1) meet the future needs of the changing target population, 2) be within budgetary constraints, and 3) build on the strengths of the organization. There are significant changes to implement three to five years from now, however planning needs to begin now. Techniques in problem solving and decision making; Strengths, Weaknesses, Opportunities and Threats analysis (SWOT); and organizational development (OD) can be employed. Key to any plan is performance measurements and these must be included in the Home-Based Care plan.
- Evaluate paradigm shifts performed by similar organizations, such as ones in Atlanta and Norfolk.
    - The Atlanta Regional Commission utilizes a knowledge management system and offers a voucher program.
    - The City of Norfolk and Senior Services of Southeastern Virginia have successfully combined services for older adults and all staff members affiliated with the new "Center on Aging"; a team approach is utilized with cross training of team members.

- Address the ongoing issues with the information system as outlined in the recommendations section of this report (page 41 and Appendix I). Two of the critical items are:
  - Seek a professional Information Technology/Information Systems (IT/IS) Systems Engineer with strong project management experience in a variety of disciplines.
  - Set up a multi-disciplinary internal committee to address the current issues with the Harmony system and plan for future changes to this system. Techniques used by the Atlanta Regional Commission in their knowledge management system should be reviewed and possibly incorporated into the Harmony system (see Appendix E.2).
- Results from the surveys of case managers and contract agency directors suggest several areas in the home-based care process that need to be addressed (e.g. vendor selection process for client referrals, aide and intake worker training). Detailed recommendations can be found on pages 41 and 42.

PROJECT OVERVIEW

The Fairfax County Department of Family Services (FCDFS) Home-Based Care (HBC) Program provides county residents with personal care services including bathing, dressing, ambulation, and light housekeeping. FCDFS social workers provide case management and home health aides are provided via independent providers and through contract with private agencies.

In July 2003, the FCDFS contracted with the Center for Excellence in Aging and Geriatric Health (CEAGH) and the College of William & Mary (W&M) to examine their HBC Program and make recommendations for the future. Specific deliverables include:

- Estimate the number of potential home-based care clients, using the current criteria for eligibility in yearly increments from 2004 to 2007, and also for the year 2010.
- Review home-based care programs in other jurisdictions, both locally and nationally.
- Research technology-based options for delivering and/or assisting in the delivery of home-based care services.
- Recommend options for providing home-based care services in Fairfax County.

The FCDFS agreed to provide CEAGH with access to staff and the information necessary to complete their research. Beginning in August, monthly meetings were held between the CEAGH research team and the FCDFS – Adult and Aging Division Administrators to discuss utilization of contract agencies, the data management system and options for the delivery of home-based care. Meeting minutes were circulated to FCDFS personnel following these meetings.

The following data and informational components were reviewed and/or analyzed for this report:

- Fairfax County/Virginia Census Data
- FCDFS Client Data
- Health Status Data FCDFS
- Case Managers' Survey
- Contract Agency Directors' Survey
- Process Flow Chart for HBC Program Clients
- FCDFS/Fairfax County Department of Health Comparison of Services
- Evaluation of Task-Based Services
- Home-Based Care Review of Local Jurisdictions
- Home-Based Care Review of Non-Local Jurisdictions
- Available Assistive Technology Options

DATA ANALYSIS

The following datasets were analyzed for this report – census data, HBC Program client data (including information from the Virginia Uniform Welfare Reporting System (VUWRS) and the Adult and Aging Database (AADB)) and client health status data.

Census Data

In 2000, the senior population in Fairfax County (those 60 years of age or older) was 11.5 percent of the total population; Virginia 15.1 percent; and the United States 16.2 percent.[1] Based on U.S. Census data, the County's estimated increase in seniors from 2000 to 2010 is 55 percent, or 61,427 seniors (see Table 1). However, Census projections do not take into consideration certain factors, including the growing number of retirees relocating to the area and the increase in longevity. Therefore, we project that this growth in seniors could be even larger than predicted.

Table 1. Population Growth of Individuals 60 Years of Age and Older

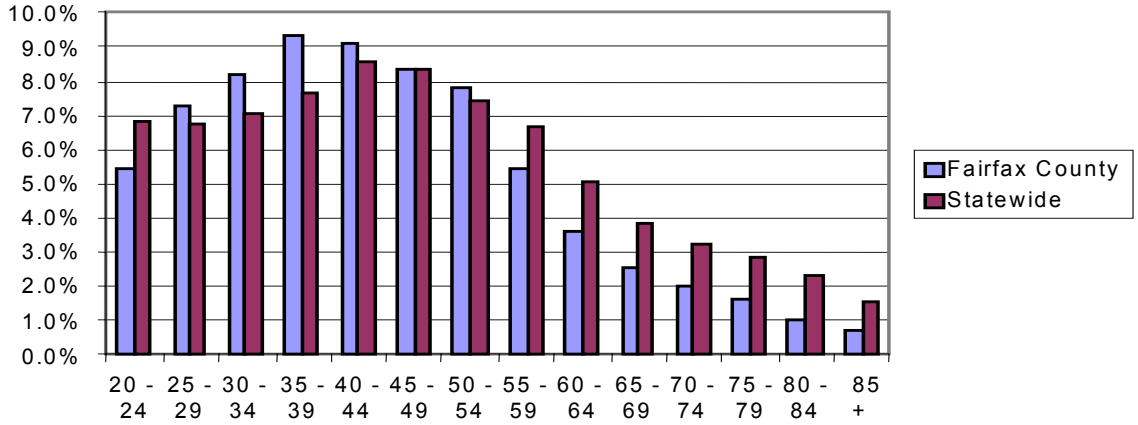
	1990	2000	Projection 2010	percent Δ 2000/1990	percent Δ 2010/2000
USA Total	248,790,925	281,421,906	299,862,000	13.1	6.6
USA 60+	**41,857,998 (16.8%)**	**45,797,200 (16.2%)**	**55,967,000 (18.7%)**	**9.4**	**22.2**
Virginia Total	6,187,358	7,078,515	7,737,597	14.4	9.3
Virginia 60+	**909,906 (14.7%)**	**1,065,502 (15.1%)**	**1,385,611 (17.9%)**	**17.1**	**30.0**
Fairfax County Total*	818,584	969,749	1,120,100	18.4	15.5
Fairfax County 60+*	**80,098 (9.9%)**	**111,415 (11.5%)**	**172,842 (15.4%)**	**39.1**	**55.1**

Note: Percentage in parenthesis represents percentage of individuals 60 and older with respect to the total population for a given year. Sources of Census Data and Projections: 1990 and 2000 population data from the U.S. Bureau of the Census. 2010 projected population data for Virginia and Counties from the Virginia Employment Commission.

Figure 1 and 2 show population by age group for Fairfax County in 2000, and statewide projections for the years 2010, 2020 and 2030. From Figure 1 it is clear that younger county residents (ages 25-44) account for a greater percentage of the population than within the state as a whole. County residents 50 years of age and older are growing at approximately two-thirds the state rate in this age range. Figure 2 shows that the younger age groups (20-49) are growing at a fairly constant rate from 2010 through 2030. The 50-59 age group peaks in growth in 2010, while those 60 and older (with the increase of aging "baby boomers"), shows marked growth in 2020 and 2030.

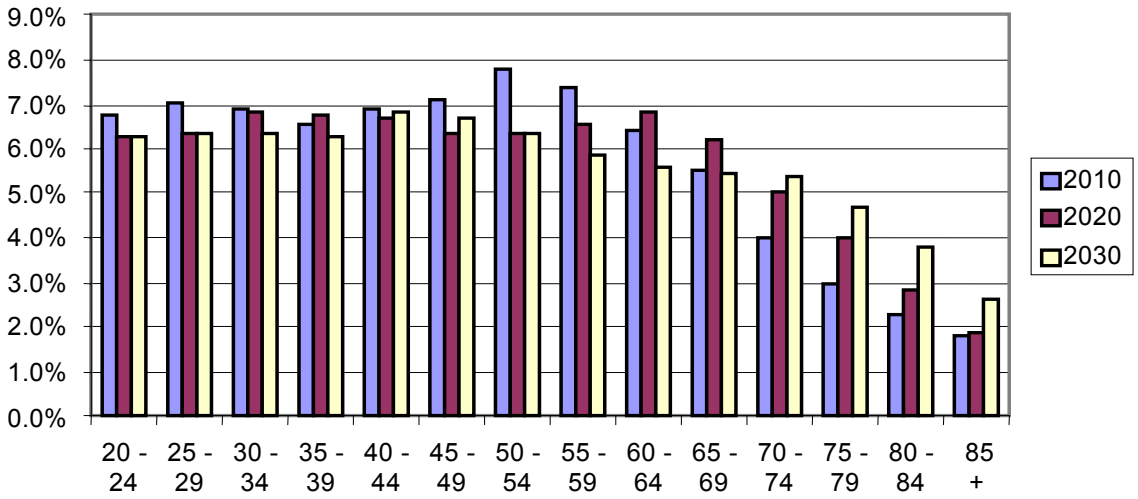
[1] 2000 U.S. Census Data from http:www.census.gov and from http://www.velma.vec.state.va.us/vecweb/poptot/index.html

Figure 1. Population as a Percent of Total (2000 Census)



Source: 2000 Census Data from http://www.velma.vec.state.va.us/vecweb/poptot/index.html

Figure 2. Statewide Population Projections (Percent of Total)



Source: 2000 Census Data from http://www.velma.vec.state.va.us/vecweb/poptot/index.html

Table 2 projects the population for Fairfax County by age group: 20 to 59, and those 60 and above. These projections are based on a linear projection of the Virginia Employment Commission's 2000 Census information and 2010 projections for Fairfax County. Both 2004 and 2007 populations are a linear fit between these two years for the respective age groups.

Table 2. Fairfax County Population Projections for 2004, 2007 and 2010

Age Group	2000	2004	2007	2010
20 to 60	592,171	612,985	628,596.4	644,207
60 +	111,415	135,986	154,413.9	172,842
Total	703,586	748,971	783,010	817,049

Source: 2000 Census Data from http://www.velma.vec.state.va.us/vecweb/poptot/index.html

The HBC Program serves those 18 years old and above. Census data reports population in age groups 15 to 19, 20 to 24, and so on. To best model the FCDFS client base, the census data starting at age 20 was used. Table 3 shows the projected annual increase for the age ranges indicated, along with the total increase for those 20 and older. The rate of increase remains fairly steady at almost 1 percent through the years for those potential clients under age 60; however, the rate of increase is significantly higher for those 60 and above at 5.5 percent and only drops to 4 percent by the year 2010. Beyond 2010, the 60+ age group can be expected to increase at a rate of 1.2 percent annually according to the 2000 census data projection provided by the Virginia Employment Commission. In summary the 60+ population will increase in number at a rate higher than those who are 20 to 59.

Table 3. Fairfax County Projected Annual Population Rate Increase for 2004, 2007 and 2010

Age Group	Annual Rate of Increase 2000 to 2004	Annual Rate of Increase 2004 to 2007	Annual Rate of Increase 2008 to 2010
20 to 59	0.9%	0.8%	0.8%
60+	5.5%	4.5%	4.0%
Total	2.2 %	1.5%	1.4%

Source: 2000 Census Data from http://www.velma.vec.state.va.us/vecweb/poptot/index.html

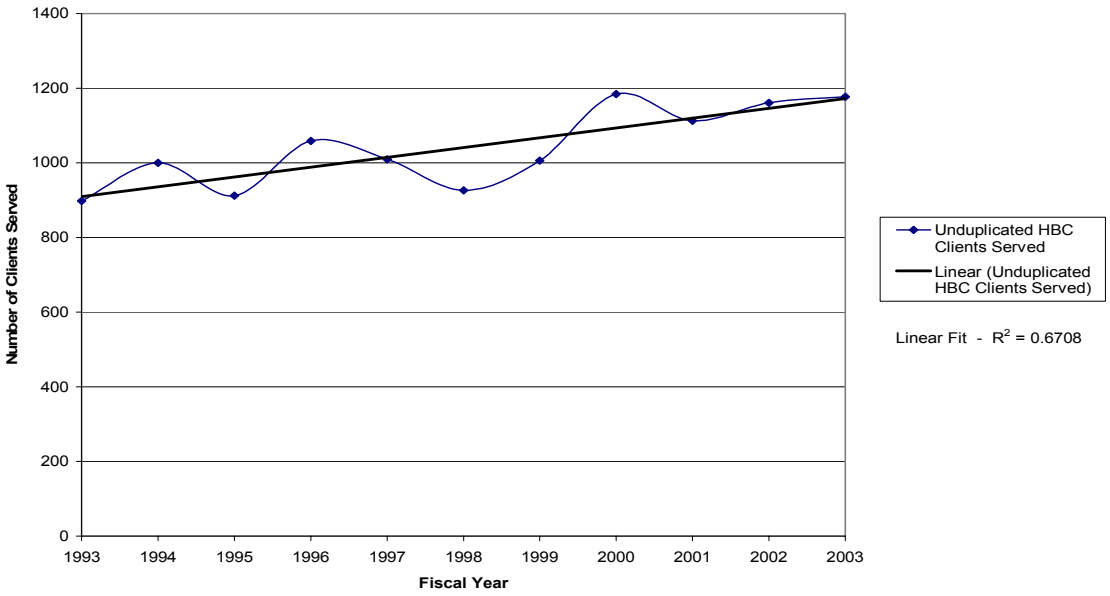
Fairfax County Department of Family Services Data

The FCDFS provided client data for those individuals served by the HBC Program. The information was collected from three sources, the AADB (Uniform Assessment Instrument – UAI – assessment information from 1993 until 2003), VUWRS (payment information from 1997 until 2000), and Harmony (payment information for the year 2003). The AADB database was used by FCDFS to collect health status information on both clients receiving services and those requesting services. The VUWRS database tracked the payment information for FCDFS from the early 1990s until 2000. Harmony is currently being rolled out for use by the staff. This program will track both the health status information and the payment information on those clients requesting and receiving services from FCDFS.

Gathering the data for this analysis was difficult due to the variety of source files, methods of data input, and general integrity of the databases. In some cases there were multiple records for the same individual with different social security numbers or other unique identifying information. Additionally, some records were actually the same individual requesting service more than once annually (duplicated client records). Providing an accurate match between the three databases led to a smaller data set than the complete client population. For this study the smaller set will be considered a representative sample of the total client base. Error calculations will be presented in each section of analysis.

Figure 3 shows the number of unduplicated clients from fiscal year 1993 through fiscal year 2003. Fitting the data to a linear trend line provides a R^2=0.6708 where the closer R^2 is to one the better the fit. Some possible reasons for error include policy changes, budget changes, and data collection error. The slope of the linear trend line leads to a 3.2 percent average annual growth of the client base during this period.[2]

Figure 3. Fairfax County Home-Based Care Clients (FY1993 through FY2003)



Source: Fairfax County Department of Family Services 12-8-03

[2]The R^2, or correlation coefficient, is a measure of how well trends in the predicted values follow trends in the actual values in the past. It is a measure of how well the predicted values from a forecast model "fit" with the real-life data. The correlation coefficient is a number between 0 and 1. If there is no relationship between the predicted values and the actual values the correlation coefficient is 0 or very low (the predicted values are no better than random numbers). As the strength of the relationship between the predicted values and actual values increases so does the correlation coefficient. A perfect fit gives a coefficient of 1.0., thus the higher the correlation coefficient the better. Source: http://www.neatideas.com/cc.htm

Based on this 3.2 percent increase, the client base will be 1,215, 1,335, and 1,467 for the years 2004, 2007, and 2010 respectively. However, if the client population grows in proportion to the total population, as indicated in Table 2 and 3 for the Fairfax County area, the client base will be 1,203, 1,258, and 1,311 for the years 2004, 2007, and 2010 respectively. The two client projections are presented in Table 4 and Figure 4.

The 1993 to 2003 annual growth rate of the unduplicated FCDFS clients was 3.2 percent, while the 1990 to 2000 census growth was 1.8 percent for the same age group of 20 and above. FCDFS has served a client base that has increased at a rate of 1.4 percent greater than the population growth over a similar time period and age group. Several factors should be considered when looking at these client projections:

AADB Projection Considerations (3.2 percent annual increase)

- Trend established from 1993 through 2003 with 0.6708 R^2 correlation.
- Policy changes within FCDFS which may have affected the number of clients served within a given year.
- Fairfax County year to year budget for the HBC Program
- Validity of accurate recordation of the unduplicated client base.

Census Tract Projection Considerations (2 percent Annual growth for 2004, 1.5 percent Annual Growth for 2005-2007, 1.4 percent Annual Growth for 2008-2009)

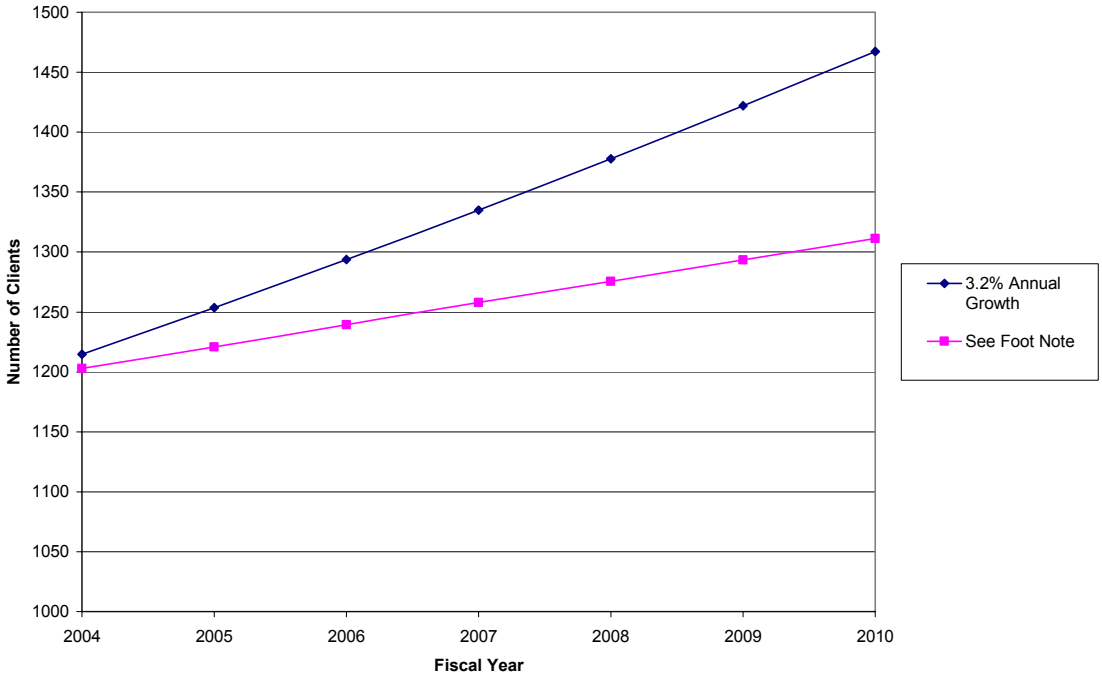
- Validity of HBC client base following the county growth patterns.
- Fairfax County budget process for HBC Program may or may not follow the county population growth patterns.
- Changes in income eligibility within a given population.

Table 4. HBC Client Projections for 2004, 2007, and 2010

Year	3.2 percent Annual Growth	See Foot Note*
2004	1215	1203
2007	1335	1258
2010	1467	1311

Source: CEAGH Estimates based on 2000 Census and DFS Client Data
*2.2 percent Annual growth for 2004, 1.5 percent Annual Growth for 2005-2007, 1.4 percent Annual Growth for 2008-2009

Figure 4. Projected Home-Based Care Client Population Growth



Source: CEAGH Estimates based on 2000 Census and DFS Client Data
*2.2 percent Annual growth for 2004, 1.5 percent Annual Growth for 2005-2007, 1.4 percent Annual Growth for 2008-2009

Client Age Group Projections

The FCDFS serves residents 18 years of age and older who are eligible to receive these services. Based on the AADB data set the program's client population is predominantly 60 years of age and older, accounting for 89.5 percent of the total client population.

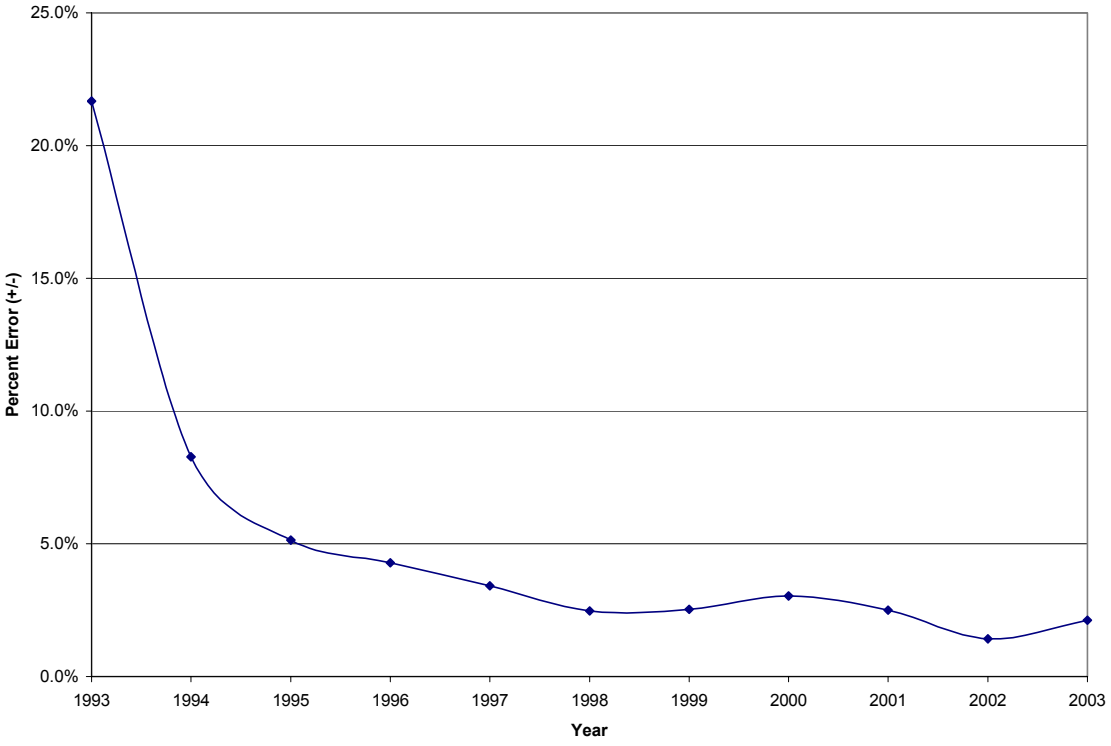
This section uses the AADB data set to provide projected trends within age groups. An accurate method to obtain client data through the payment information from 1993 through 1996 was not available; therefore, age distribution information was obtained by using the screening date in the AADB data set.

The population is defined by the number of unduplicated clients reported by FCDFS for a ***fiscal*** year and the sample size is defined by the number of unduplicated clients based on the screening date on a ***calendar*** year. The AADB data set contains multiple screening dates for a client during either a fiscal year or calendar year. Due to the potential duplication of records, the calendar year was used to determine the age and number of unduplicated clients.

Statistical error based on the sample size of the client population was determined. Figure 5 shows a steady reduction in error for the years 1993 through 2003. As time progressed

and the data recording process improved, the percent of error decreased from 21.7 percent in 1993 to an average of approximately 2 percent starting in 1997.

Figure 5. Percent Error Plot for 1993 to 2003

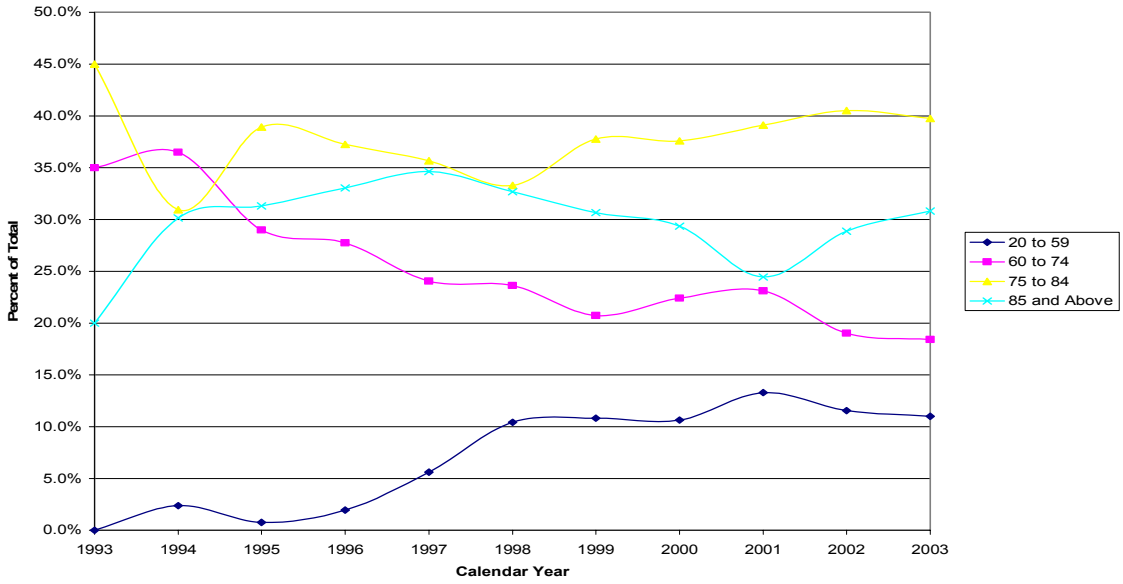


Source: Fairfax County Department of Family Services 12-8-03, http://www.surveysystem.com/sscalc.htm#factors.

Based upon the low coefficient of correlation for the data from 1993 through 1996, the trends for changes in age group distribution are based on the data from 1997 to 2003. Using the AADB data for trend analysis is only a best effort approximation with the data set provided for this analysis period. Correlation variations can arise from a variety of sources such as: improper data entry, procedure changes, budget and data entry techniques, and database management system changes.

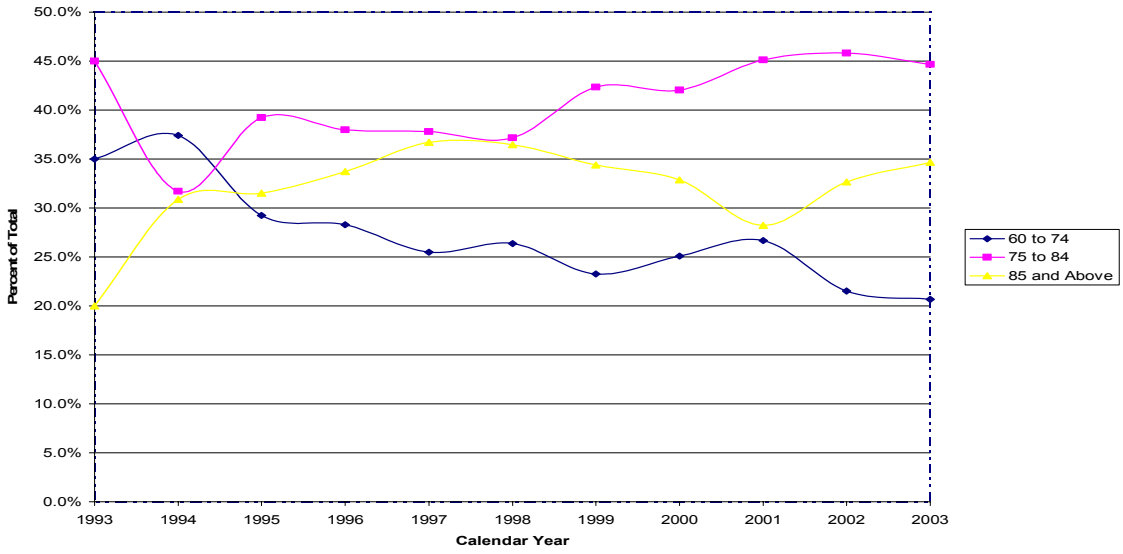
Figure 6 illustrates the distribution variability within the selected age groups. Figure 7 looks at the age group distribution of elderly clients (60 and above). As stated earlier, the statistical fit (coefficient of correlation) of any trend line to this data is prone to error based on various external influences to the data set.

Figure 6. Age Group Distribution of All Clients from 1993 to 2003



Source: CEAGH Data Analysis of the AADB data set

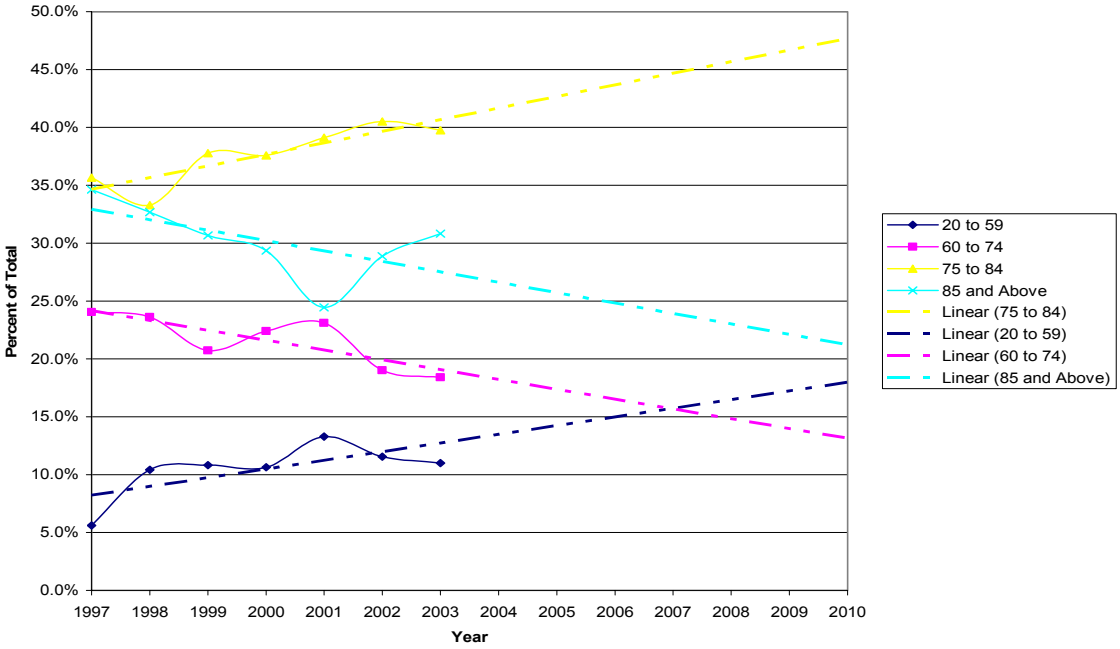
Figure 7. Age Group Distribution for those 60+ from 1993 to 2003



Source: CEAGH Data Analysis of the AADB data set

Figure 8 uses linear trend lines to project client age group projections to the year 2010. The trend line is based on the data points for the years 1997 through 2003 in the AADB data set. It is clear to see that the age groups 20 to 59 and 75 to 84 are increasing as a percentage of the total. There is a significant percentage decline for those clients in the age groups 60 to 74 and 85+.

Figure 8. Percent of Total Age Group Projections using 1997 to 2003 Data



Source: CEAGH Data Analysis of the AADB data set

Table 5 and 6 show the projected number of clients based on the information in Figure 4 and Figure 8. The total number of clients is also indicated in these tables.

Table 5. Projected Number of Clients for Each Age Group at 3.2 Percent Annual Growth

Annual Projected Growth Rate of FCDFS HBC Clients for Each Age Group at 3.2 percent Annual Growth			
	2004	**2007**	**2010**
20-59	164	211	264
60-74	220	211	191
75-84	508	318	313
85+	323	595	700
Total	1215	1335	1467

Source: CEAGH Data Analysis of the AADB data set

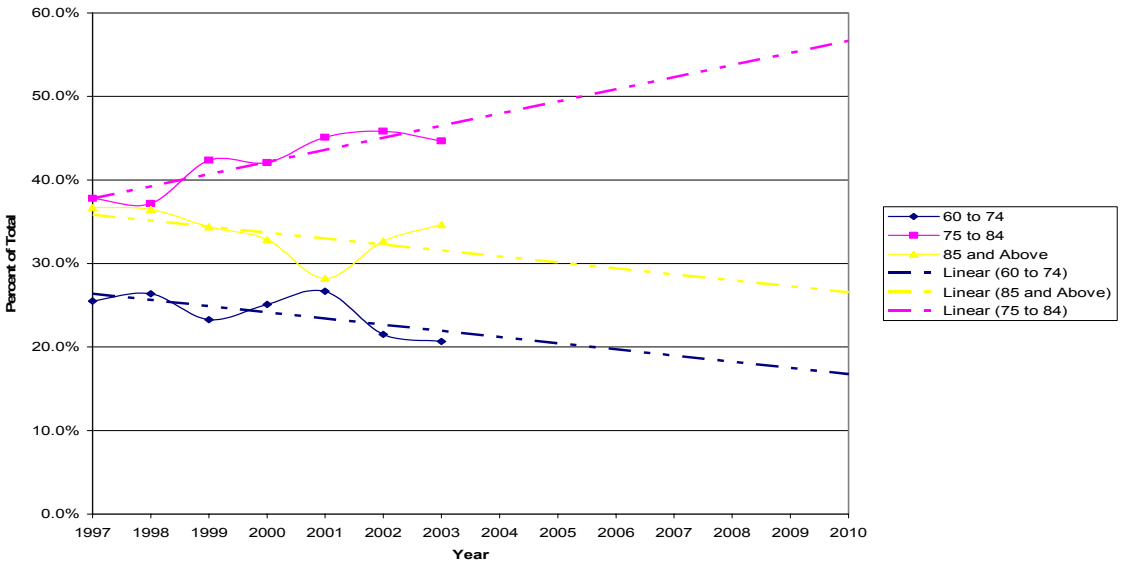
Table 6. Projected Number of Clients Using Virginia Employment Commission Growth Rates

2.2 percent Annual growth for 2004, 1.5 percent Annual Growth for 2005-2007, 1.4 percent Annual Growth for 2008-2009			
	2004	**2007**	**2010**
20-59	162	199	236
60-74	218	199	170
75-84	503	299	279
85+	320	561	626
Total	1203	1258	1311

Source: Virginia Employment Commission Projected Population Rates

Figure 9 illustrates a clearer projection of the elderly population. Those 20 to 59 are removed from the data set for this projection. This figure shows that there will be more clients aged 75 to 84 served, while those aged 60 to 74 and 85 and above will decline as a percentage of those served over time.

Figure 9. Percent of Total Age Group Projections for those 60+ using FCDFS 2000 to 2003 Data

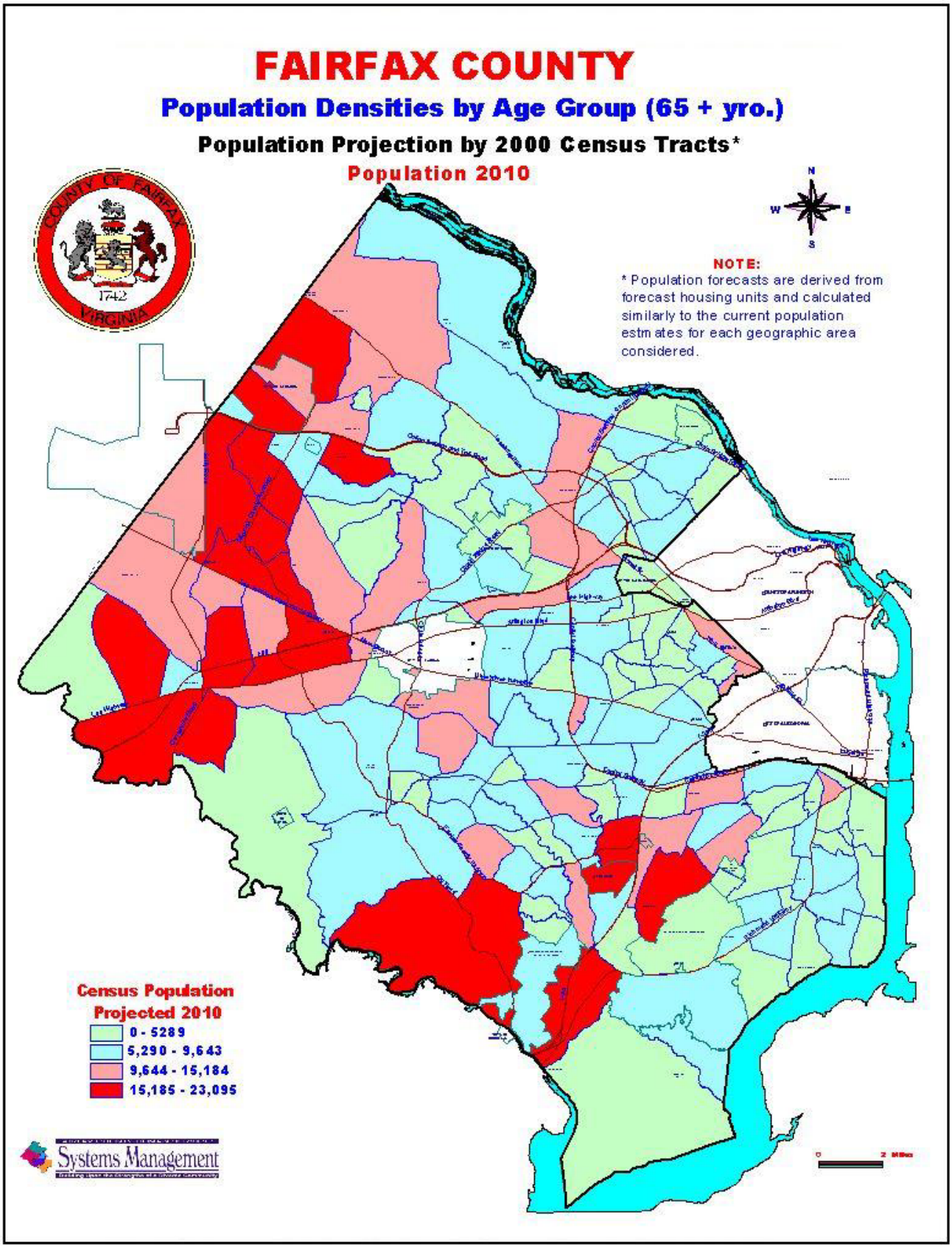


Source: CEAGH Data Analysis of the AADB data set

Figure 10, provided by the Fairfax County Geographic Information System (GIS) Department, illustrates Fairfax County population projections and population density for 2010. Appendix A provides additional county maps highlighting projections for 2005, 2015 and 2025. When comparing the 2005 projection in Appendix A with one can see that the western and southern parts of the county will experience the greatest growth over

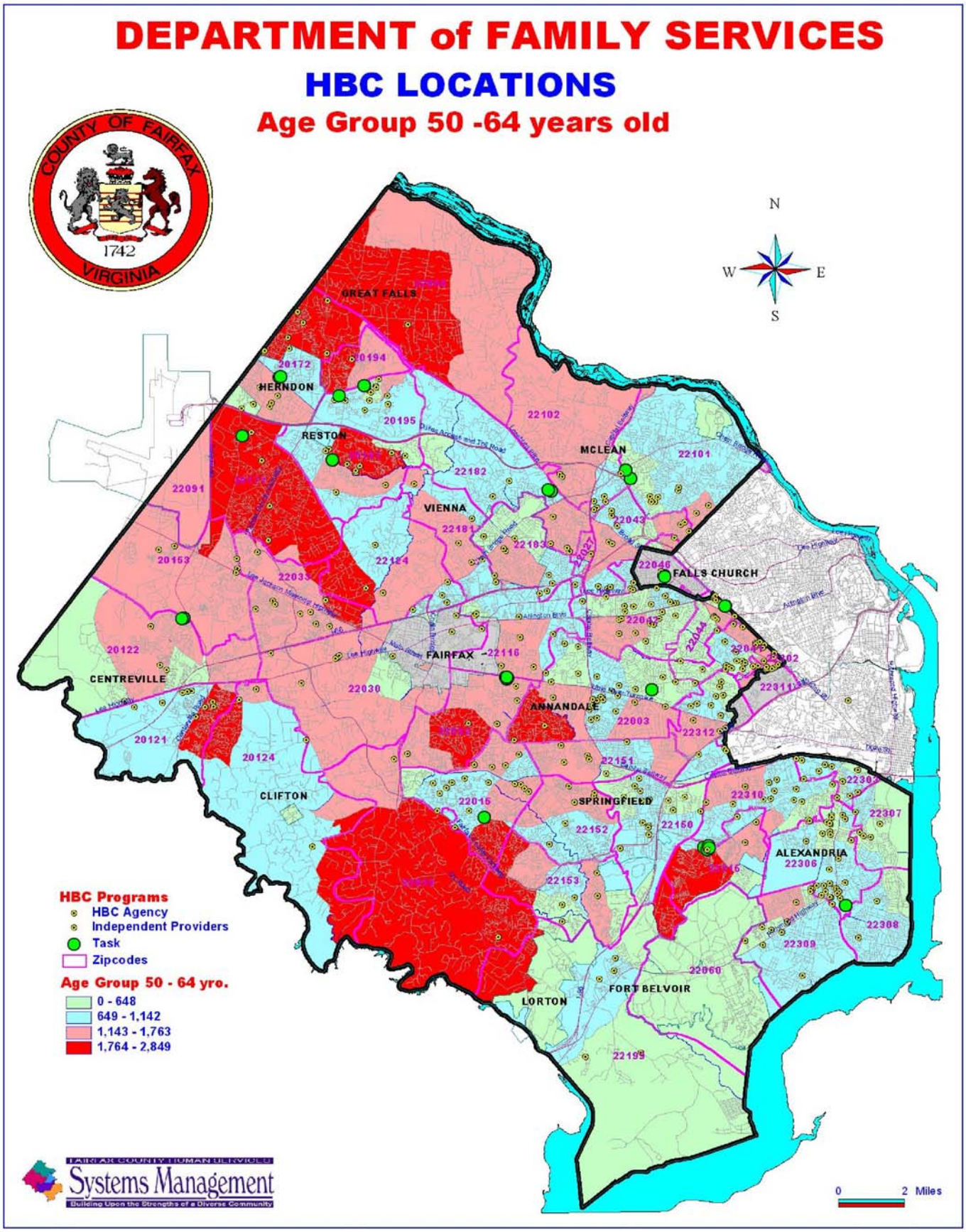
the next few years. Figure 11 and 12 display the current client densities for the HBC Program. These two figures are useful for identifying regions in the county with large populations of older people. Utilizing the mapping services of the Fairfax County GIS Department can serve as an effective tool in analyzing a changing client base and managing service delivery by subcontractors serving these clients.

Figure 10. 2010 Fairfax County Population Projection Using 2000 Census Tracts



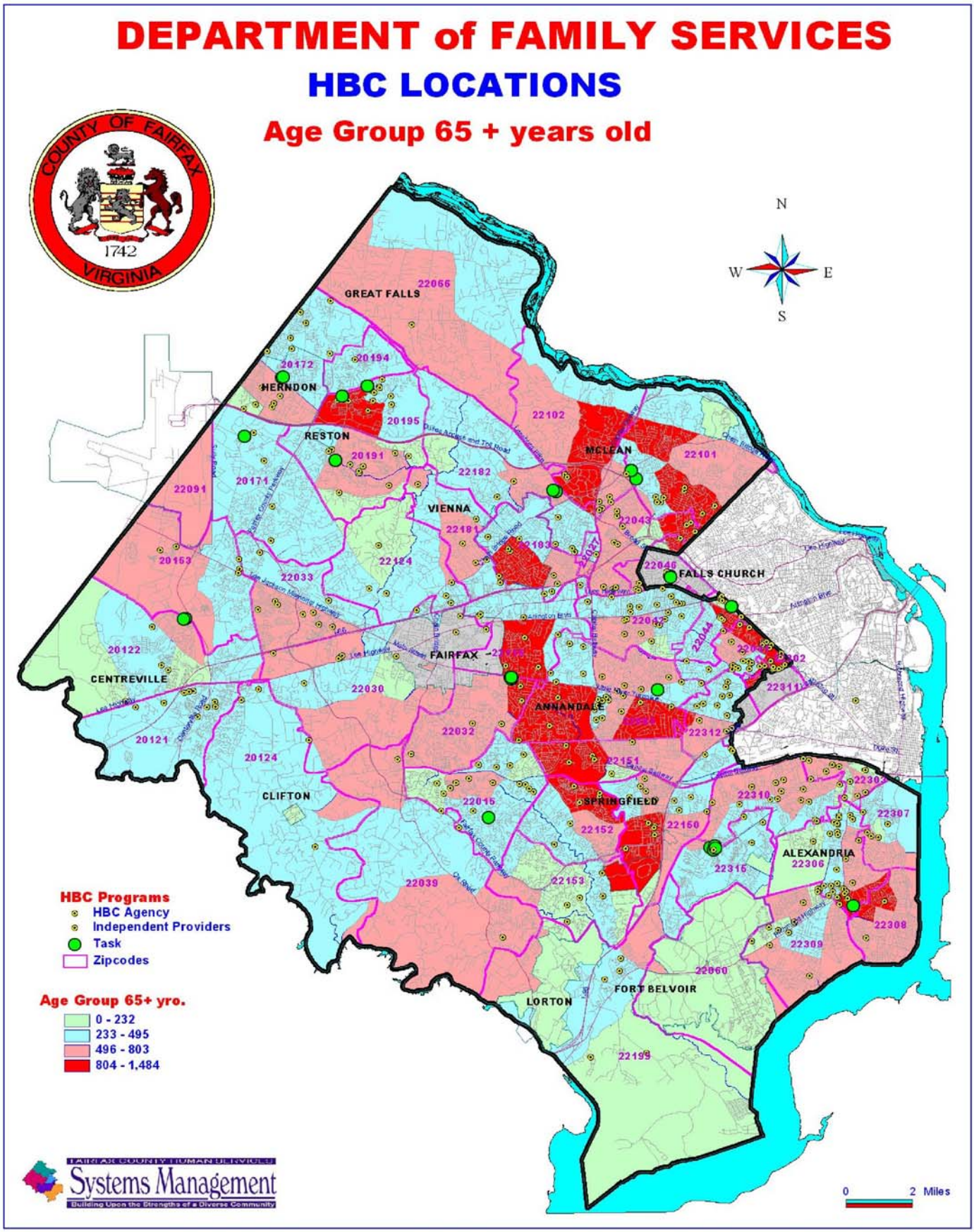
Source: 2000, Lathan Dennis, Fairfax County Government, Department of Systems Management for Human Service

Figure 11. Fairfax County HBC Client Densities for those 50 to 64 Using FY2004 Harmony Data



Source: 2000, Lathan Dennis, Fairfax Count Government, Department of Systems Management for Human Service

Figure 12. Fairfax County HBC Client Densities for those 65+ Using FY2004 Harmony Data



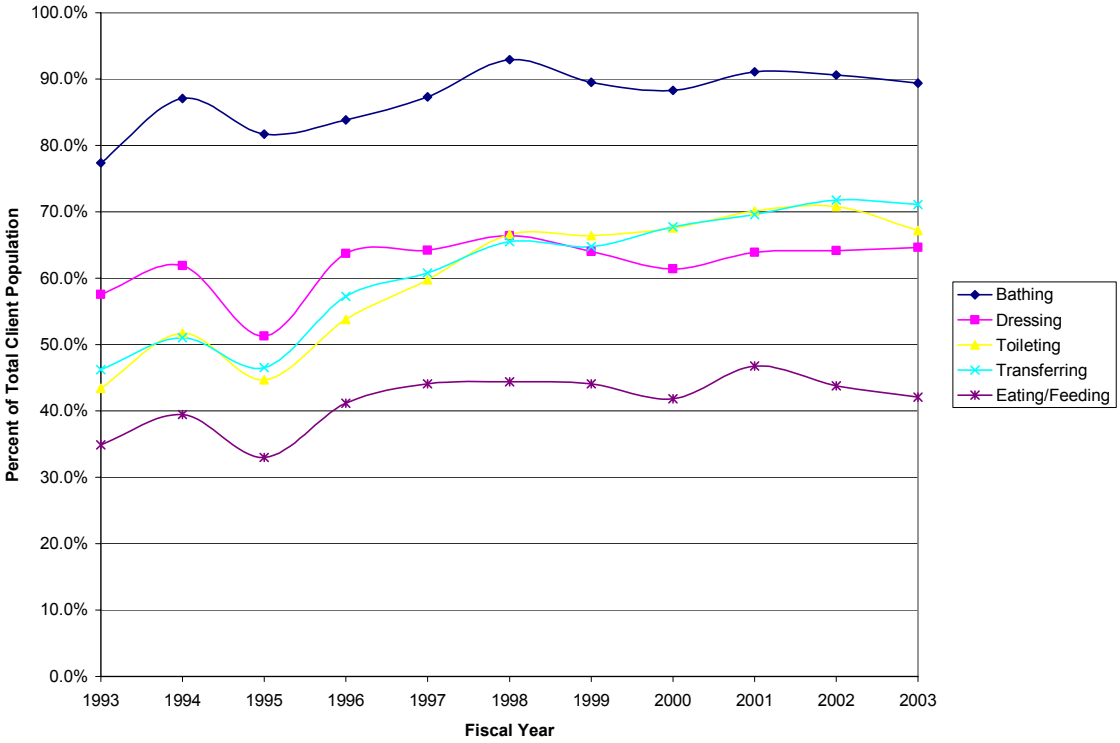
Source: 2000, Lathan Dennis, Fairfax Count Government, Department of Systems Management for Human Service

Health Status Data

This data set includes information on the number of limitations in Activities of Daily Living (ADLs), Instrumental Activities of Daily Living (IADLs), continence, and ambulation; as well as primary, secondary, and tertiary diagnostic codes.

Bathing has consistently been reported as the ADL more clients have a limitation with than any other ADL (see Figure 13). This is not surprising given that adults in need of home-based care are likely to experience challenges with bathing and getting in/out of a tub/shower prior to experiencing challenges in other areas. Affecting the smallest percentage of clients, the limitation with eating and feeding was assessed in approximately 40 percent of home-based clients over the past 10 years. Home-based care clients in need of assistance with feeding are likely to be the frailest and this limitation may signal the need for increased home-based care services or a change in living arrangements.

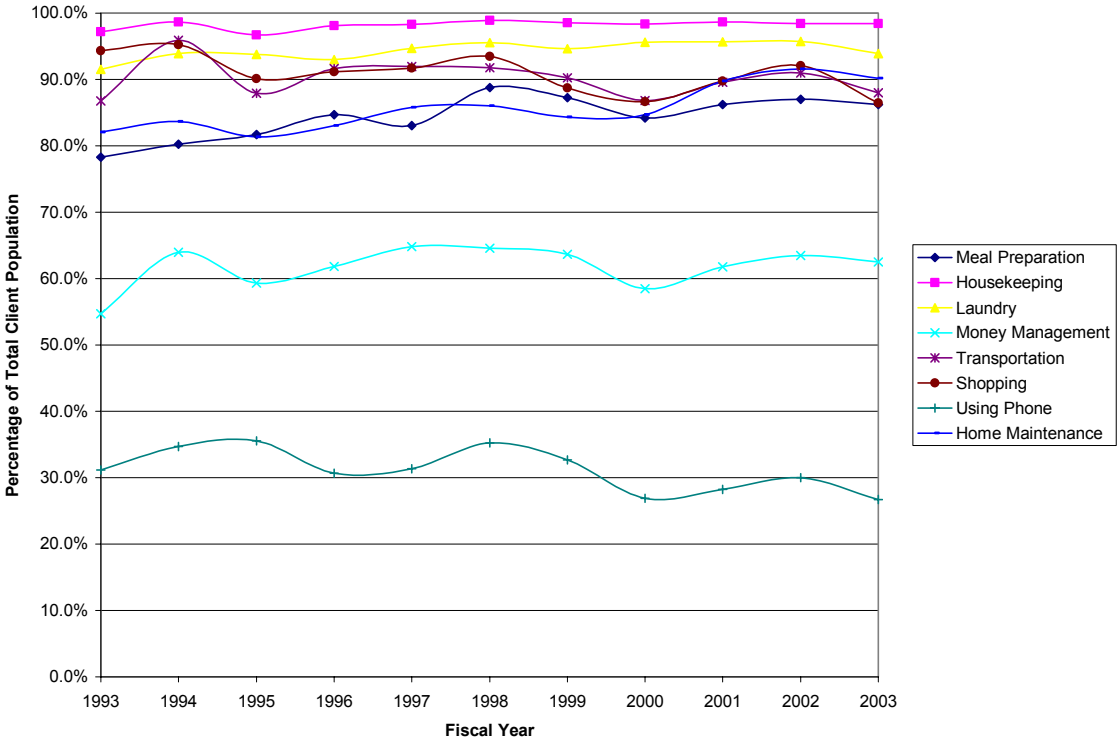
Figure 13. Limitations with Activities of Daily Living



Source: CEAGH Data Analysis of the AADB data set

From Figure 14, it is clear that housekeeping is assessed as a need in nearly 98 percent of the sample of HBC Program clients during the 1993-2003 time period. Clients have also been assessed to have limitations with laundry, transportation, shopping, meal preparation, and home maintenance. All of these areas have been identified as a need in 80 percent or more of the sample. Money management has been identified as a need in approximately 50 percent of the sample, while using the telephone was the least identified limitation, impacting approximately 30 percent of the sample.

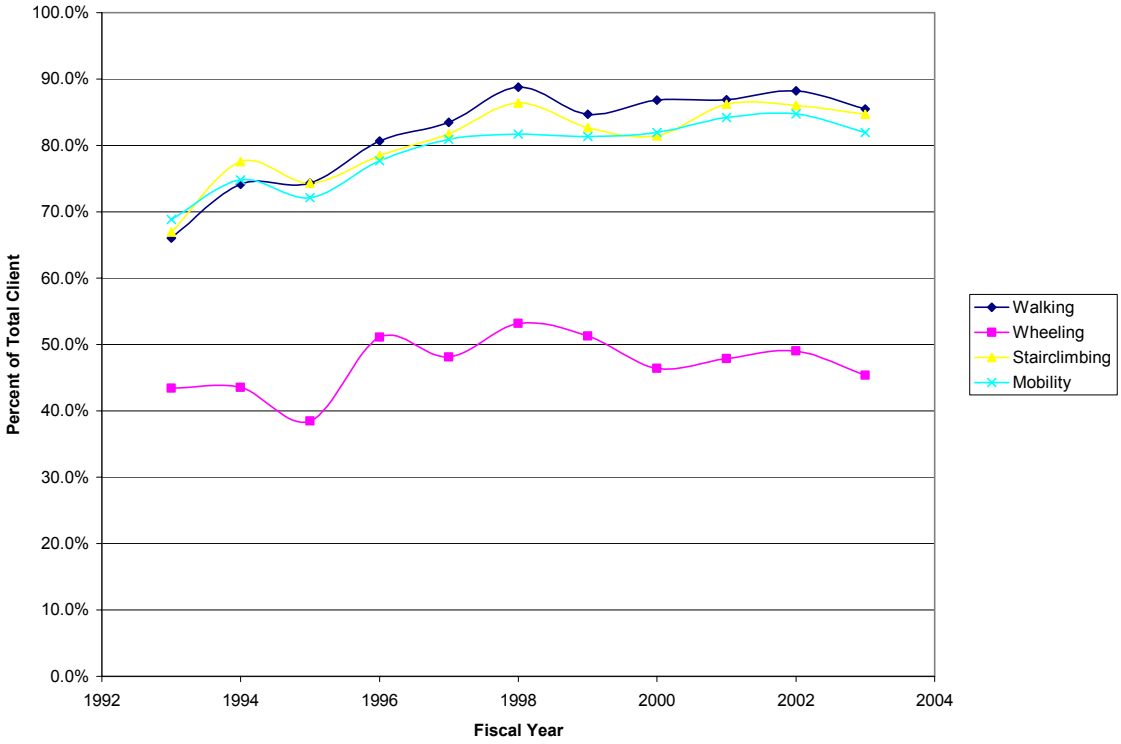
Figure 14. Limitations with Instrumental Activities of Daily Living



Source: CEAGH Data Analysis of the AADB data set

Limitations in walking, stair-climbing and mobility have affected approximately 65 to 90 percent of HBC Program clients over the last ten years. Wheeling limitations have remained fairly steady over this time period (see Figure 15).

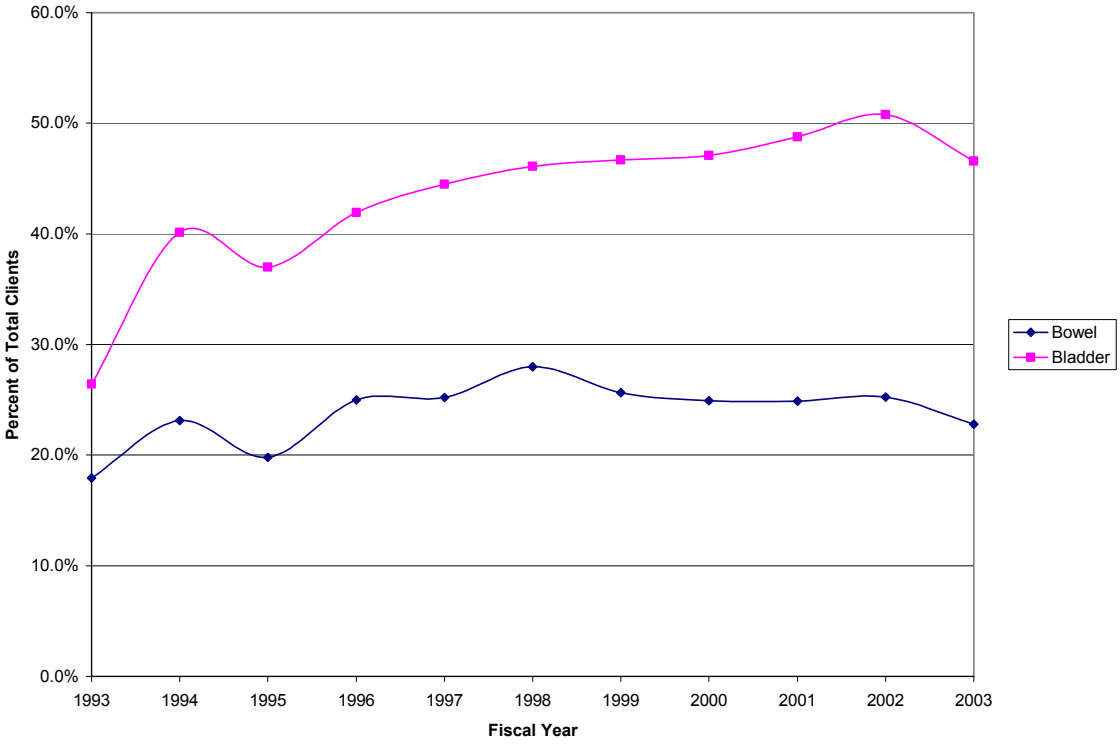
Figure 15. Limitations with Ambulation



Source: CEAGH Data Analysis of the AADB data set

Limitations with continence of the bladder are seen more often in home-based care clients than limitations with continence of bowel. Bladder incontinence has shown a steady increase in FCDFS clients from 1993 to 2003, experiencing a 75 percent increase (see Figure 16).

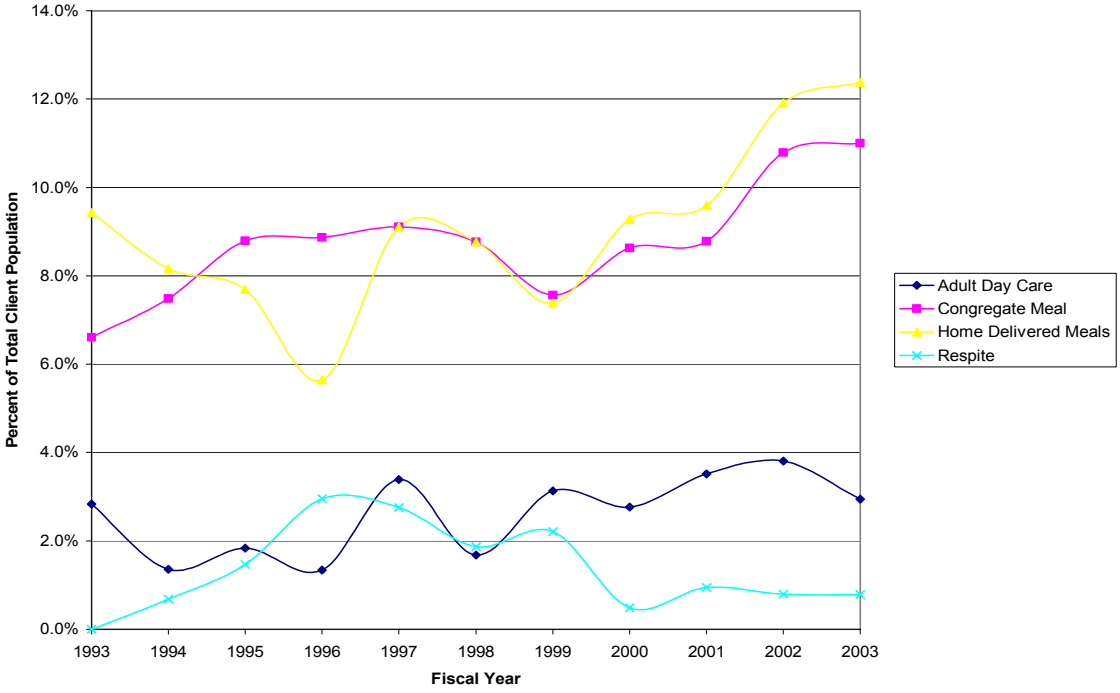
Figure 16. Limitations with Continence



Source: CEAGH Data Analysis of the AADB data set

Figure 17 highlights four support services that HBC Program clients reported utilizing at the time of their assessment. Although home-delivered meals showed a significant decline in 1996 (possibly due to reduced funds), both congregate meals and home-delivered meals have shown steady increases since 1999. One reason for this increase is likely due to increased awareness about the availability of these nutrition programs. Adult day care and respite services have been utilized by less than 4% of the client sample. Adult day programs, in particular, are not well known and thus are under-utilized by many older adults and their families. FCDFS is likely to see an increase in the awareness and usage of adult day care and respite services as the older population continues to increase and more residents remain in their homes for longer periods of time.

Figure 17. Support Services Utilized by HBC Clients



Source: CEAGH Data Analysis of the AADB data set

The primary, secondary and tertiary diagnostic codes were analyzed and graphed. They are included in Appendix B for review. As seen with the other fields that were analyzed, there is considerable error. Using this information to predict future trends would not be accurate.

Conclusions

There was considerable effort by the FCDFS staff to deliver an accurate data set for this analysis. The information was thoroughly reviewed using standard accepted statistical analysis. This analysis indicated that using the data for future projections would not be accurate.

The cost analysis between task-based and hourly-based care could not be completed due to the very limited data set. CEAGH reviewed the Harmony data set for fiscal year 2003. There was a significant number of missing records in the cost table for the data set. FCDFS is currently rolling out the integrated use of Harmony and this type of analysis will be possible in future years once accurate and complete records are recorded in the Harmony system.

INFORMATIONAL ANALYSIS

Information was collected on various aspects of the home-based care program in order to fully understand the program and make appropriate recommendations for the future.

Survey Findings

Case Managers' Survey

A survey of case managers (see Appendix C.1) was conducted to assess the case managers' views on the referral process, the role of assistive technology in home-based care, the communication process with the home-based care coordinator and agency directors and suggestions for enhancing the quality and effectiveness of home-based care. An accompanying cover letter explained the purpose for conducting the survey and encouraged input from the case managers (see Appendix C.2).

Completed surveys were received from 61 percent of the case managers (25 of 41) serving FCDFS home-based care clients. The following section summarizes the findings based on responses received from the case managers.

Suggestions from survey results to:

Enhance Intra-Agency Work

- Resolve challenges with computer system
- Improve data entry efficiency/clerical support
- Improve intake process
- Expand support for case managers
- Expand support for client needs
- Improve efficiency of billing system
- Re-assess hours/utilize task-based delivery

Enhance Inter-Agency Work

- Improve agencies' delivery of services
  - Improve agency staffing/response time
  - Improve communication with agency
- Expand routine and standardized training for aides
- Improve the supervision/monitoring of aides
- Improve communication between agency, aide and case manager
- Expand support for client needs
- Expand support for agencies/recruitment of aides

Incorporate Assistive Devices

- Explore funding and access issues
- Expand incorporation on assessment
- Expand training opportunities for case managers

- Explore using physical therapist/occupational therapist to assist with referrals/instruction for devices

Agency Directors' Survey

The Survey of Agency Directors (see Appendix D.1) assessed the views of the agency directors on the referral process, the role of assistive technology in home-based care, the communication process with the home-based care coordinator and case managers, suggestions for enhancing the quality and effectiveness of home-based care, and mechanisms for supporting and retaining aides. An accompanying cover letter (Appendix D.2), from Fairfax County (co-signed by Elizabeth Shirley, Program Manager – Adult and Aging Division, and Shauna Severo, Long-Term Care Coordinator – Health Department) explained the purpose for conducting the survey and encouraged input from the agency directors.

Completed surveys were received from each of the four contract agency directors or supervisors. Their summarized responses include:

Areas to Address

1. Referral Process
   - More information/detail on referral forms requested.
   - Clarification of referral process desired.
   - Clarification to client of aide availability needed.
2. Billing Process
   - Lack of timeliness is a concern.
   - Need for clear process.
3. Training for Case Managers
   - Expand training so that case managers handle assessments in similar fashion.
   - Expand training on Harmony.
4. Communication with Coordinators and Case Managers.
   - Lack of timeliness with responses to issues that arise.
   - Knowledge of complaints is communicated; request knowledge of aides performing above expectation also be communicated.
   - Importance of ongoing communication.
5. Benefits for Aides
   - No career ladders but opportunities for increases in pay.
   - Vacation pay is offered.
   - Health insurance is nearly prohibitive for agencies to provide.

Overall Challenges

1. Quality of Aide
   - Language barriers.
   - Some aides are particular about the schedule they want to work.
   - Turnover is high.
2. Transportation
   - Most aides do not have cars and clients are not on bus routes.

3. Flexibility
    - Clients need to be as flexible as possible, reduce expectation of specific time frames for receiving services.
4. Harmony
    - Uncertain how comfortable case managers are with utilization.
5. Future Demand
    - Importance of considering aging baby boomers and making appropriate plans to meet service demands.
6. Coordination of Schedules
    - Based on demands of client or family.
    - County doesn't pay for "inconvenience" issues and agencies are not always informed of hospitalization/nursing home admission and cannot bill for the aides' time but must pay them.

Overall Strengths

1. Organizational structure.
2. Scheduling.
    - Referrals are coming in based on geographic location; easier to staff with clusters like this when several patients live near each other; but agencies are not sure how this is being done. Agencies aware clients come from all over the area.
3. Monitoring.
    - Ongoing discussion with clients and aides.
4. All in all, agencies believe the program is effective in keeping clients in their home – "that's the strength."

Process Flow Chart of the Referral and Delivery of Services

In addition to surveying case managers and contract agency directors, CEAGH believed it was important to outline the internal process for serving clients in the home-based care program. This information is outlined below and captured in a process flow chart in Figure 18. Each step outlined in the process below corresponds to the numbered steps in Figure 18.

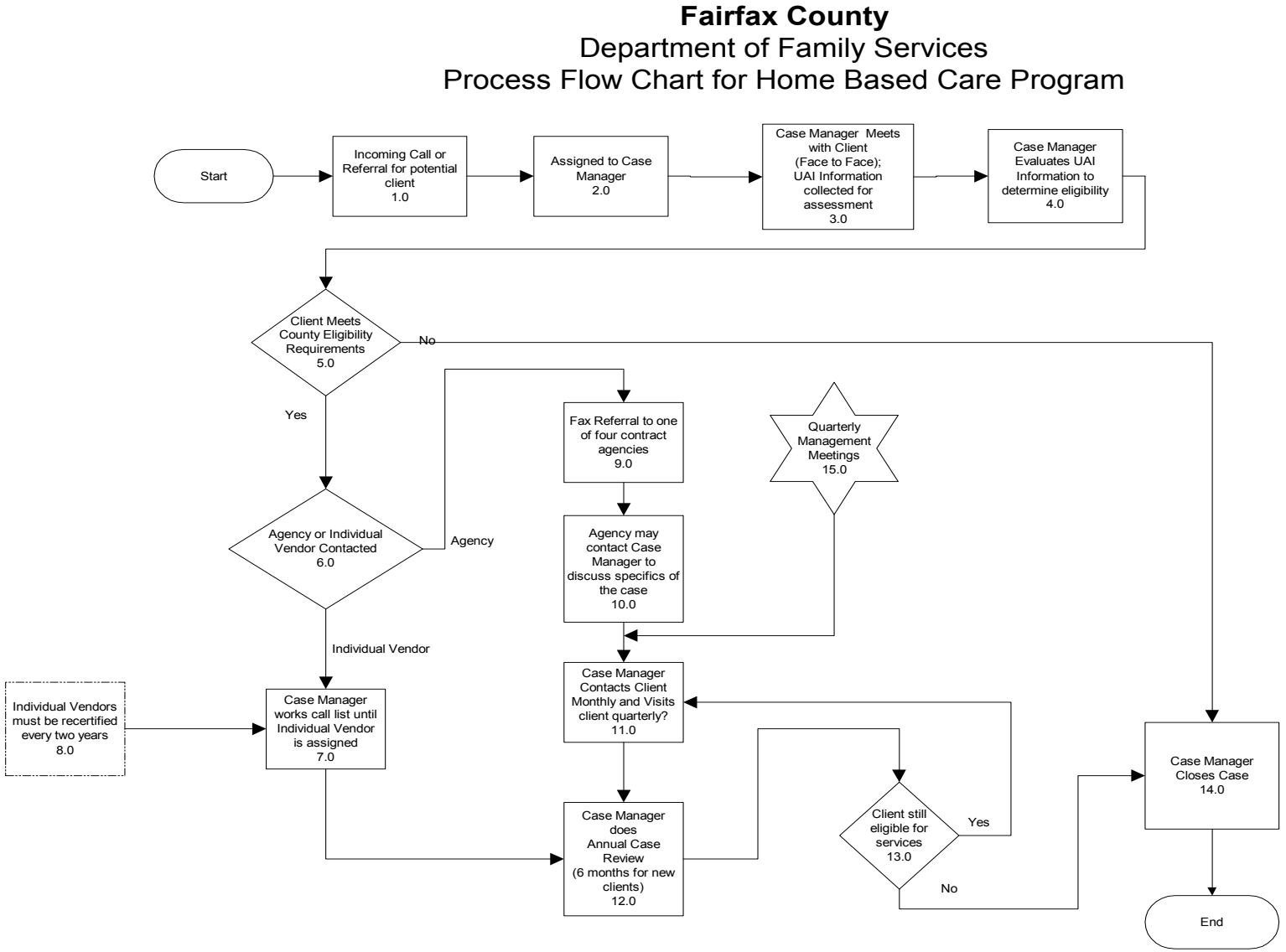
(1) A call or referral for services is received from the potential client/client's family or other source.
(2) The case is assigned to a case manager.
(3) A face-to-face, in-home assessment, using the Uniform Assessment Instrument (UAI) and the FCDFS worksheet, is completed by the case manager. This process allows the case manager to gather detailed information from the potential client regarding health status, functional limitations, and income.
(4) The case manager evaluates the information to determine income and functional eligibility. Functional eligibility is determined based on the client's needs for assistance with activities of daily living (ADLs) and instrumental activities of daily living (IADLs). Income eligibility is based on the 70^{th} percentile of the Virginia Median Income.

(5) Case manager determines eligibility. If individual is not eligible for FCDFS home-based care services, the case is not opened and the client is referred to other resource(s).
(6) Case manager refers eligible clients to either a self-employed provider (see step 7) or to the home-care coordinator for referral to one of four contract agency vendors (see step 9).
(7) For individual vendors, the case manager sorts through a registry of names, making contacts until an aide is reached and accepts the referral.
(8) A FCDFS staff member verifies all aides in terms of credentials, certification, and/or licensure prior to their name being added to the registry. There are currently 85 approved self-employed aides and 60 of these aides are serving 48 clients. Nineteen of the aides are relatives, mostly adult daughters, who are providing care to a family member.[3] Aides complete the re-approval process every two years. Case managers monitor the services delivered during ongoing regular contacts with the client.
(9) For agency vendors, a referral is faxed to one of the four agencies. Referrals and enrollments by agency are monitored on a monthly basis. Unfilled referrals are continuously tracked.
(10) The contract agency must notify the FCDFS within five working days of the case status (unable to staff, staffed or that they need more time to staff). In many instances, the agency coordinator follows-up with the assigned case manager to learn more about the client to help assign the appropriate aide to the client.
(11) FCDFS case managers are expected to make monthly contacts with clients in the first six months of service.
(12) New cases are evaluated six months from the first assessment. After the client's needs and services become stable the client is reassessed on an annual basis.
(13) Client eligibility for home-based care is determined.
(14) If the client remains eligible for services, then the care plan is updated and home-based care continues to be delivered. If the client is no longer eligible for services (e.g., income status change, hospitalization, nursing home admission), then the case manager closes the case.
(15) Quarterly management meetings are held with the agency directors and the home-based care coordinators from FCDFS and the Fairfax County Health Department. These meetings allow for ongoing dialogue between the agencies and coordinators to evaluate the referral process and service delivery. Coordinators follow up on issues raised at the meetings and prepare a summary report for the program manager. Complements and complaints are referred to the appropriate supervisor. Case managers participate in ongoing discussion and resolution of all complaints.
(16) Case managers participate in on-going discussion and resolution of all complaints.

FCDFS/FCHD Comparison of Services

Home-based care services offered by the FCDFS and FCHD are compared in Table 9. While there is duplication in services offered, the FCDFS differs in that it does not offer center-based respite on Saturdays and does not assess a fee for services for eligible clients.

[3] Numbers provided by FCDFS.



Source: Meetings with Fairfax County DFS Staff, 8/14/03, 9/10/03, 10/8/03.

Figure 18. Process flow chart displaying system of referral and service delivery

Table 7. Comparison of Home-Based Care Services Provided by Fairfax County's Departments of Family Services and Health[4]

Fairfax County	Personal Care Services Offered	Respite	Personal Care Services Provided By	Range of Service Hours Assigned	Case Management	Fee Structure	Eligibility	Fiscal Year 2003 Clients
Department of Family Services (DFS)	Assist client with dressing, bathing, toileting, continence care, ambulation, light housekeeping, meal preparation, medication reminders, and safety monitoring.	Up to 8 hours/week provided for persons who would otherwise be eligible for HBC but have a caregiver at home	Aide with contract agency or private vendor.	Clients receive 4-32 hours/week. Average client receives 14 hours/week.	Provided by social workers employed with DFS.	No fees are charged for HBC (except clients in Share Care).	Based on 70 percent of Virginia Median Income or less, and functional needs (based on UAI).	Served 1,177 unduplicated.
Health Department (HD)	Assist client with dressing, bathing, toileting, mouth care, hair care, nail care, ambulation, light meal preparation, light house cleaning (specific to bed and bathroom areas), and laundry.	**Home-Based:** Provided by contract agency Aide in the home **Center-Based:** Onsite respite at one of the Adult Day Health Care Centers	Aide with contract agency.	Clients receive 2-3 baths/week with personal care time approximately 2 hours/visit.	Provided by public health nurses employed by HD.	Sliding scale, based on monthly income and number in household; clients may pay $1-$15/hour.	Based on need in UAI. Income indicates level of co-pay by client.	Served 177 unduplicated clients in Bathing & Respite Program and 44 unduplicated in center-based respite.

[4] Information presented in this table is based upon discussions with DFS and HD staff.

Evaluation of Task-Based Services

FCDFS is interested in the expansion of task-based care, thus seeking a further paradigm shift in the delivery of home-based care. The feasibility and economics of expanding the current task-based program in senior high-rise apartment complexes to cluster neighborhoods should be examined prior to expansion.

Fairfax County's GIS Department staff members are capable of identifying and preparing county maps displaying neighborhood clusters, and the department is interested in working with FCDFS. Data from telephone interviews with two vendor agency directors and contact with local and national jurisdictions on their experiences with the use of task-based services have been analyzed. The advantages and challenges of task-based services are summarized below.

Advantages of the Current Task-Based Delivery of Services

- The task-based approach has been well-received (e.g., high satisfaction rates) by clients in residential facilities.
- Previous cost-benefit analyses (e.g., George Mason University Study, 2001) have found task-based care, delivered in congregate sites, to be cost-efficient.
- Aides are addressing the direct needs (e.g., bathing, dressing) of clients rather than spending a set amount of time (e.g., hourly model) with a client.
- The two agencies with current task-based contracts offer orientation and training for their aides handling task-based clients; this training could be expanded and aides "certified in task-based care" can mentor new aides.

Challenges to Expansion of Task-Based Care to Neighborhoods

- Task-based care has traditionally been delivered in congregate sites or residential facilities (not only in Fairfax County but throughout the U.S.) where numerous clients reside in nearby apartments, not in residential neighborhoods.
  - Arlington County has begun to pilot cluster care (based on an hourly model) in neighborhoods immediately surrounding senior apartment complexes, with the intent to expand county-wide, via five clusters, during 2005 (see Appendix E.1).
- The minimum number of task-based clients necessary to make task-based services economically feasible, in settings other than congregate sites, is yet to be determined.
- Vendor agencies have concerns regarding a move to a total task-based system including transportation, aide training, aide pay rates (based on hourly rate versus task-based rate), and supervision of aides.
- Transportation for aides remains a serious concern, as public transportation options are limited in Fairfax County. How would aides without reliable transportation move from site to site within even a cluster neighborhood?

Many questions need to be answered before a decision can be made on task-based care replacing the hourly system (e.g., what modifications would be necessary to the existing Harmony database system? and how often would the clusters need to be redefined and modified over time as the population shifts and demand for home-based care services change?). Perhaps the Arlington County cluster care pilot study can provide information to help answer these questions. Additional data needs to be collected and analyzed before a prudent decision can be made.

Home-Based Care Review

Local Jurisdictions

FCDFS staff provided CEAGH with contact information for five local jurisdictions providing home-based care through their respective Social Services Department. The local departments that were contacted, via telephone, include: Arlington County, Loudoun County, City of Alexandria, Prince William County, and Montgomery County, Maryland. Ten questions were asked of each of the respective directors/managers focusing on the number of clients served and hours delivered during the past fiscal year, costs and fees, waiting lists, utilization of adaptive equipment, and the implementation of new models of home care. The responses from each local jurisdiction are detailed in Appendix E.1.

Summary of responses

- Three of the five jurisdictions have collaborative programs with Department of Social Services, the Area Agency on Aging and/or the Health Department.
- Three of the five jurisdictions provide services using a sliding scale fee structure.
- Three of the jurisdictions disclosed maximum hours of service, with 30 hours/week the maximum. Loudoun County provides an average of 19.6 hours/week of service, ranging up to 30 hours/week (or even more with severe adult protective services – APS - cases).
- All five of the jurisdictions currently have waiting lists (from 15 to 100 potential clients), with one exception---Arlington County does not have a waiting list for the cluster care type of home-based service.
- One jurisdiction solely uses private providers and four jurisdictions utilize contract agencies (two of those agencies have also transitioned from using self-employed aides).
    - Transitioning away from using private providers was accomplished by encouraging (through RFPs) that agencies hire and train these individuals.
    - Those using private providers have a coordinator to monitor aides.
- One jurisdiction requires agencies to pay a living wage ($10.98) to all aides. Vendor costs range up to $20/hour.
- All jurisdictions bill in terms of hours, except one ADL bathing program.
    - Three jurisdictions are exploring task-based delivery options.
- All jurisdictions conduct client satisfaction surveys bi-annually or annually.

    - One jurisdiction requires the contract agency vendor, through RFP, to measure satisfaction of clients and aides annually.
    - All jurisdictions have guidelines for handling client complaints.
- All jurisdictions explained that case managers were familiar with many technology-based devices. They would routinely encourage clients and/or their family members to ask their doctors about equipment, or they would assist clients in ordering equipment/device.
    - These four jurisdictions have established lending closets for equipment and devices.
    - One jurisdiction received grant funding to demonstrate low-tech assistive technology to staff and community; worked with Sunrise Assisted Living demonstration apartment.
- One jurisdiction is transitioning to cluster care and vendors will bid on which clusters they can serve.
    - Another jurisdiction utilizes a route system to assign an aide to multiple clients in a high-density housing unit.
    - Another jurisdiction has worked to increase the number of hours per year that can be received per client.
    - Another jurisdiction has focused on being part of the county's discussion with the local planning council in order to ensure that plans are made accordingly with the increase in age-restricted independent homes.

Three private home health agencies serving the Fairfax County area were contacted about their delivery of home-based care. Responses included:

- All agencies charge a flat fee per hour ranging from $14.75 to $20.00, with one agency providing Medicare-certified services.
- One agency is exploring the implementation of cluster care.
- Two agencies partner with personal emergency response systems (e.g., Lifeline, Healthwatch), while one agency is part of a larger health system.
- One agency conducts a satisfaction survey bi-annually and the other upon discharge.
- One agency's technology initiative is to provide field clinicians with laptop computers to improve record keeping, access to records, and coordination of services.
- One agency noted that numerous private agencies are emerging to serve residents in the Northern Virginia area.
- One agency noted that they integrate a nurse-case manager model, given that the skills of both professionals are needed to provide effective care.
- One agency pays their aides for driving time and mileage.

<u>Non-Local Jurisdictions</u>

In-depth telephone and e-mail interviews were made with more than a dozen home-based care programs, including those in Arkansas; Atlanta, Georgia; Norfolk, Virginia; Rochester, New York; and Wayne, Michigan. Appendix E.2 highlights the elements of

these home-based programs from around the country. Based on an informational analysis of the jurisdictions surveyed, key points noted are summarized below.

- At least five of the twelve non-local jurisdictions surveyed use assistive technology to improve client care or reduce aide hours (Arkansas; Orange County, North Carolina; Norfolk, Virginia; Kansas; New Hampshire)
- Several jurisdictions reported use of a "shared attendant" or task-based model within a senior high-rise building or an apartment complex (Oregon; Rochester, New York; Washington, D.C., New York, New York).
- At least two areas have implemented cluster care programs in which a geographic area is served by one agency (New York, New York; Wayne, Michigan). Additionally, Atlanta has been studying NORCs (naturally occurring retirement communities) in an attempt to identify neighborhoods heavily populated with older adults.
- At least three programs issue consumer-directed allowances, which provide clients with the opportunity to purchase their own services and equipment (Atlanta, Georgia; Arkansas; Colorado). In Atlanta, the vouchers are capped at approximately $1000/year per client.
- At least three areas surveyed use a team approach to client care (Norfolk, Virginia; New York, New York; Washington, D.C.)
- Of these program contacts sharing information regarding waiting lists and program hours available to clients, two jurisdictions reported the use of a waiting list in order to handle excess demand for services (Atlanta, Georgia; Wayne, Michigan). Additionally, two areas have established a maximum number of service-hours per week or per month that a client may receive (Atlanta, Georgia; New Hampshire).

Assistive Devices and Home-Based Care

The FCDFS asked the research team to look at technology-based options for delivering and/or assisting in the delivery of home-based care services. Currently, HBC Program case managers assist clients with accessing durable medical equipment and assistive devices; however the FCDFS does not provide this equipment to clients.

The Veteran's Administration is leading the way with their use of telehealth monitoring systems. Other influential research programs include: University of Pittsburgh School of Nursing, Miami University of Ohio, Hebrew Rehabilitation Center for Aged Research and Training Institute, Michigan State University, University of Virginia, Intel, Cyberseniors.org, and the Atlanta Regional Commission. Representatives from two of the leading national caregiver organizations, National Family Caregiver's Association and the Family Caregiver Alliance, have also expressed their interest in these technological advances, citing CareGiverPA (Pennsylvania) and SeniorNavigator.com (Virginia) as examples of two statewide websites providing information and resources for seniors and their families. [5] To date, limited information is available on the aspects of

[5] Information presented at SPRY National Conference (October 2-3, 2003). "Computer-Based Technology and Caregiving for Older Adults."

expense and installation issues, or the ethical implications of privacy versus providing care in the least restrictive environment.[6] Other areas that will pose challenges to agencies and facilities who elect to utilize assistive technology includes having the basic computer technology available to support these devices, as well as training issues for families, in-home aides, case managers, nurses, and other members of the care team.[7] In addition, assistive devices are intended to "complement rather than substitute for human assistance."[8] Therefore, most forms of equipment and devices are not to be used as the sole form of support for older adults.

Types of Assistive Technologies

1) Robotics – intelligent aids
   a. Nursebot (Univ. of Pittsburgh) moves around the room to bring/take away food/medicine utilizing a tray; arms provide stability for individual to transfer, face has camera and monitor.
   b. Robotherapy Cat (Complex Interactive Systems Research, Inc.) – this stuffed cat is person-stimulated so that when touched or spoken to, it interacts by purring, moving head/tail/mouth/legs; suitable for individuals with dementia in particular, who may be unable to handle proper pet feedings but could benefit from pet therapy.
   c. Robotic Floorvac - vacuum is small and portable, about the size of a round platter; moves around the room to pick up dirt, debris, etc. and navigates around chairs, tables and differing floor heights using sensors that stop near stairs; battery-powered, filter must be emptied regularly; three different available models ranging from $199 to $250. (one brand name is Roomba)
2) Monitoring Systems - designed to perform in-home monitoring from a distance, with the monitor(s) set up in the home sending information back to a receiver site (e.g., hospital, VA clinic); monitor may test vital signs such as blood pressure, glucose, pulse, etc.; monitor may serve as a medication reminder or ask other health status questions such as one's disposition, sleeping, and eating habits to [unobtrusively] evaluate daily living. Information is passed through an algorithm and if any responses/scores are of concern, a nurse follows up with a call. Some monitoring systems include a video so that "live appointments/visits" can be conducted with a doctor/nurse; while others utilize cameras to record activities. (Ex: HomMed)
   a. Personal Emergency Response Systems (PERS) – first introduced in the early 1970s, this form of monitoring involves a small transmitter that allows a person to call for assistance with the press of a button. Many adults who are frail or disabled will keep the transmitter in their pocket or around their neck, making it more accessible than the telephone. (Ex: Lifeline)
3) Sensors – similar to the monitors, sensors are installed in the home to monitor, from a distance, variables such as changes in household temperature, movement from one

[6] Blanchard, J. (2003). Ethical considerations of home monitoring technology. *CSA Journal, 21,* 23-26.
[7] Morris, R., Caro, F. G., & Hansen, J. E. (1998).*Personal assistance: The future of home care*. Baltimore, MD: The Johns Hopkins University Press.
[8] Ibid, pg. 88.

room to another, gait, and falls. (Ex: UVA's Smart House, Boston Project – Hebrew Rehabilitation Center)

4) Intelligent Mobility Aids – navigation assistance for both power and manual wheelchair users; prototype compatible with power wheelchairs utilizes sensors to detect obstacles preventing collision/injury (Ex: Smart Wheelchair Component System – SWCS); power assistance is added to manual wheelchair where rear wheels are replaced with motorized hubs that magnify force applied by user and incorporates the sensors (Ex: SPAM – Smart Power Assistance Module was just recently approved by the FDA and is intended to benefit those with vision impairments).
5) Automated Prescription Dispenser – about the size of a cookie jar, these dispensers are programmed and web-enabled to organize, remind, dispense, and track medications; if a life-saving medicine is released into the tray and not picked up within a pre-determined time, it goes back into the dispenser, a message is sent to a receiver and a follow-up call/visit is arranged; disadvantage is that there is no way to confirm that pill taken from tray is actually consumed when needed (one brand name is MD.2)
6) Internet-Based Support/Resources
    a. Caregivers – statewide and organization-sponsored types of websites that provide information, education, and support including virtual support groups (Ex: Link2Care, Life Ledger, SeniorNavigator.com, CareGiverPA)
    b. Training Programs for Aides and In-Home Caregivers – online tutorials
    c. Assistance for Elders with Evaluating Research on Aging – sites designed to help seniors and their families search for, organize, understand and evaluate health and aging information that is available in their communities or through websites (Ex: Health Compass, SPRY Guide)
    d. Elders in Facilities – touch screen computer program that allows residents to navigate through and engage in a variety of activities including calendars, resident and staff directories, menus, resident rights, facility photo albums, faith-based readings, special events, and email access. (Ex: Senior WebPal)
    e. Elders, Families, and Organizations – national benefits screening service; can determine eligibility for many federal health and prescription programs (Ex: Benefits CheckUp)
7) Software Managements Programs
    a. Management of Medical Records – recording system for electronic medical records (EMR) that can be accessed in a variety of locations (e.g., computer in hospital room, doctor's office) (Ex: VA system, PeopleChart – patient-enabled); issues with HIPAA compliance unknown at this time
    b. Client Data Management – database to screen and manage clients across programs and services and to facilitate communications (Ex: Atlanta's CONNECT, Indiana's Insite, San Francisco's SF-GetCare)

Summary of Assistive Technology

There are several technology-based options that FCDFS might wish to consider making available for their home-based care clients. While some of the devices mentioned above

are “high-tech” (e.g., smart homes, robots) and offer many conveniences and safety measures for older residents, the equipment is simply cost-prohibitive.

Two cost-effective examples are Roomba and the automated prescription dispenser. Roomba, the automated, cordless vacuum provides vacuuming as long as there are no stairs to negotiate. Task-based light housekeeping services cost FCDFS approximately $100 per month, while the Roomba costs $200 total. Although the Roomba provides a much needed service, it cannot replace the other light housekeeping services that are provided (e.g., dusting). The vacuum has sensors that are activated when it enters a corner or approaches a wall, though it is still possible for the vacuum to become stuck, particularly with different types of flooring (e.g., hardwood, carpet, tile). In addition, the vacuum could pose a safety hazard as a client could trip and fall over it.

The automated prescription dispenser, which costs approximately $200, is designed to replace the medication reminder service offered to home-based care clients. Monitoring of the machine is needed, both via a remote site (e.g., computer connection) and within the home (e.g., refills). The downside of this device is that there is no guarantee that the medication is actually consumed by the client, as a pill could be picked up and placed at another location (e.g., kitchen counter), dropped, or thrown away.

What may be most practical for FCDFS at this time is to encourage staff and families of home-based care clients to monitor websites (e.g., Virginia Assistive Technology System (VATS), Link2Care) that explain different types of devices and equipment. Routine training on available equipment and the implementation of a lending closet may serve as the first steps to incorporating assistive technology where it is most needed.

Table 10 provides information on funding sources for assistive technology, with additional details on funding through Medicaid waivers found in Appendix F. Details can also be downloaded from the Commonwealth of Virginia at www.dmas.state.va.us (click on “Provider Manuals” and then on “Durable Medical Equipment and Supplies”).

Table 8. Summary of Devices Covered by Medicaid and Medicare Programs

Federal Agency	Covered Devices
Medicaid[9]	▪ Durable Medical Equipment (e.g., grab bars, toilet seat, wheelchair) covered if deemed medically necessary by physician. ▪ Assistive Technology (e.g., communication devices, computers) can be ordered through Medicaid waiver as long as individual is receiving nursing visits, is nursing home eligible, and the device is recommended by a PT/OT. ▪ Monitors are not covered.
Medicare[10]	▪ Medicare Part B helps pay for durable medical equipment deemed medically necessary. ▪ This equipment would include: oxygen equipment; wheelchairs; walkers; hospital beds, and arm, leg, back and neck braces. ▪ Bedside commode is covered but no equipment in bathroom is covered.

[9] Information based on phone and email interviews with Diana Thorpe, Division of Long-Term Care and Policy Assurance, and Karen Lawson, Supervisor, Long-Term Care policy Unit, Department of Medical Assistance Services, Richmond., Virginia, September 2003 – January 2004.
[10] http://medicare.custhelp.com/cgi-bin/medicare.cfg/

CONCLUSIONS, RECOMMENDATIONS AND METRICS

The management and delivery of home-based care services (non-institutional services) is complex and requires an interdisciplinary and integrated approach. The home-health care aides are the front-line workers providing the hands-on-care to those with chronic illnesses and/or disabilities. Working conditions, workloads and low salary contribute to the difficulties a public agency has in contracting and in monitoring the services necessary to provide care needed by clients. The demands that will be placed upon FCDFS will increase and change over the next several years. This makes it critical to have in place a system that is capable of dealing with the increased demands, not only in number of clients served, but in the types of services that will be required. People are living longer and many of those reaching the age of 60 in the next decade are healthier than their parents. However, the age group 85 years and older is exhibiting rapid growth and this client group will require new, different and additional services. It is imperative that the current system/process is capable of addressing the needs in the near term. It is also important for FCDFS to look ahead two or three years to assess and plan for the changes in demands for new and/or different services, as well as the means for delivering these future services to the client.

The following recommendations address the near term as well as the longer-term strategic needs. Short term recommendations will be denoted by (ST) and long-term recommendations will be denoted by (LT), with recommendations having both short- and long-term properties categorized as (ST/LT).

Recommendations

Organizational Changes

(ST) The CEAGH recently completed a study of the FCHD Bathing and Respite (B&R) Program and made recommendations for the program's future. A key recommendation was that the FCHD discontinues the B&R Program and the FCDFS assumes responsibility for their clients. Primary factors contributing to this recommendation include the duplication of services between the two departments, decreasing number of clients served by FCHD and the fact that home-based care services are a core function of the FCDFS and not the FCHD.

(ST) The FCDFS and the FCHD should collaborate on a transition plan to include a process for the transfer of clients, appropriate funding support and service delivery between the two agencies.

(ST/LT) Develop a plan for the HBC Program, setting goals and objectives to 1) meet the future needs of the changing target population, 2) within budgetary constraints, and 3) building on the strengths of the organization and minimizing its weaknesses. These are significant changes to implement three to five years from now, however planning needs to begin now.

1. Convene a committee (composed of e.g. management, public officials, case managers, demographers, recipients of services, vendor organizations) to

develop and have buy-in for a paradigm shift within FCDFS. The mission and goals may need to be restated.

2. Working teams can analyze the organizational strengths and weaknesses that are critical in developing the goals and objectives. Techniques in problem solving and decision making; Strengths, Weaknesses, Opportunities and Threats analysis (SWOT); and organizational development (OD) can be employed.
3. Key to any plan is performance measurements and these must be included in the HBC plan

(ST) Apply for Fairfax County to be a demonstration site in the Cash and Counseling Program. CEAGH has provided FCDFS with information regarding this program and current funding opportunities.[11]

(ST) Explore utilizing an occupational therapy (OT) intern from a nearby college/university to assist with training FCDFS staff and families/clients in the utilization of assistive devices. This intern could keep FCDFS staff abreast of the latest technology, as well as medical equipment companies supplying the equipment. The intern could assist with the establishment and maintenance of an equipment lending closet.

(LT) Consider a controlled expansion of the task-based program to naturally occurring neighborhood clusters, as defined by the Fairfax County GIS Department. Arlington County recently initiated a pilot program to deliver home-based care in neighborhood clusters near senior apartment complexes. FCDFS may wish to review the process in Arlington County prior to initiating a pilot study. The following data is needed in order to accurately review an expansion of the task-based program: cost, quality, and acceptability on the part of clients, agencies, aides, and case managers. This information will supplement the task-based study done by George Mason University in 2001. This study found that task-based care, delivered in congregate sites (where travel was not required), to be cost-efficient.

(LT) Explore opportunities to incorporate consumer-directed choice, based on the Olmstead Decision[12], into the home-based care program. This could take the form of a voucher system, whereby clients are provided with a monthly allotment and a list of recommended home-based care providers. Clients could submit their voucher to the agency of their choosing. For those clients with cognitive limitations, a surrogate, in the form of a family member or county-designated individual, could direct the care per the client's wishes.

[11] Based on an email dated 2/11/04 from Karen Lawson, Supervisor, Long-Term Care Policy Unit, Virginia Department of Medical Assistance Services. They are submitting an application and have requested the opportunity to partner with FCDFS.

[12] http://cms.hhs.gov/olmstead/default.asp; http://www.ncsl.org/programs/health/olmstead-home.htm.

Process Changes

Information Technology

(ST/LT) Seek professional IT/IS Systems Engineer with strong project management experience in a variety of disciplines.
(ST) Establish a committee to address the issues with the rollout of Harmony.
(ST) Map clients to individual providers and agencies.
(ST/LT) Look at incorporation of a tablet personal computer (PC) (see Appendix G).
(ST) Invite the personnel from Atlanta to visit FCDFS and demonstrate the capabilities of their knowledge management system or web portal.[13]
(ST/LT) Provide computer systems training.
(ST) Have the Harmony system provide decision support for both the intake and referral processes.
(ST) Include process system checks within the decision support area of Harmony.
(LT) Establish VPN (Virtual Private Network) with contracted service providers.
(ST/LT) DFS should allocate the manpower to merge the three separate databases into a single database with the same structure as Harmony.

Detailed information on all of these Information Technology recommendations can be found in Appendix H.

Other Process Recommendations

(ST) Increase communication between case managers and vendor agencies, to include clarification of contractual agreements and service delivery terms to new clients.
(ST) Establish standardized training and certification for intake workers. The Alliance for Information and Referral Systems (AIRS) offers standardized training in Information and Referral (I&R).[14] The Virginia Affiliate (VAIRS), based in Richmond, serves as the contact point for I&R services and training programs for health and human service workers in the Commonwealth.[15]
(ST) Consider establishing a lending closet and "traveling suitcase" of assistive devices for the education of case managers, clients and families, and work closely with the Virginia Assistive Technology System (VATS) [16].
(ST) Enroll to receive monthly e-newsletter "Seniors' Housing Research E-Review" from the National Association of Home Builders. The newsletter features updates on "innovative approaches in building and remodeling residential and community facilities."[17]

[13] Administrators with the Atlanta Regional Commission informed CEAGH that they would make themselves available to travel to meet with FCDFS staff and demonstrate their software and processes for serving home-based care clients. Staff from Atlanta quoted $500 as the amount they would require to provide this in-office demonstration.
[14] http://www.airs.org
[15] http://www.vairs.org; The 2004 I&R Training and Education Conference is being held May 3-6 in Norfolk, Virginia.
[16] http://www.vats.org.
[17] http://www.nahbrc.org.

(ST) Coordinate with contract agencies in encouraging the hiring of private providers, verifying the training requirements for aides (e.g., personal health and hygiene, duties and expectations), ensuring that aides are meeting client needs, and the monitoring and supervision of all aides.

(ST) Verify that agencies are staffing new clients in a specified amount of time, as designated in contractual agreement.

(ST) FCDFS should review their selection process for referrals to ensure that it is clear and concise.

(LT) Set up a committee to review all policies and procedures.

1. Identify all tasks done by the organization using a work breakdown structure.
    a. Eliminate unnecessary tasks
    b. Make a process flow diagram of the task if it is required.
2. Study the tasks.
    a. Can process steps be eliminated?
    b. How can the process be improved?
    c. Is this a process that is already being done by another group?
    d. How are similar organizations efficiently completing the task(s)?

(LT) Consider allocating resources for a staff coordinator to routinely monitor the individual providers, enhancing the quality control of these care providers.

(LT) Identify clusters of clients and potential clients to help alleviate transportation challenges among aides. The identification of these clusters will provide opportunities for contract agencies to bid on clusters they can best serve.

Cost-Saving Measures

(ST) In December 2003, CEAGH provided the FCDFS with guidelines utilized by the Atlanta Regional Commission (Atlanta, Georgia) and the Peninsula Agency on Aging (Newport News, VA) in regards to their respective waiting lists. FCDFS considered implementing a waiting list this fiscal year, but has decided not to implement. The CEAGH recommends they implement a waiting list in the near future.

(ST) Reduce the maximum number of hours per week that clients can receive services to 20 hours, the average maximum number of hours in jurisdictions throughout Virginia and nationally.

(ST) Utilize the FCHD sliding scale fee structure and institute a co-payment for all services to help alleviate the projected budget shortfall.

(LT) Explore contracting with a private cleaning service to handle all light housekeeping services for clients; one also provides transportation services for clients. Additional information on the cost-benefit analysis of contracting with a private cleaning service is outlined in Appendix I.

Metrics

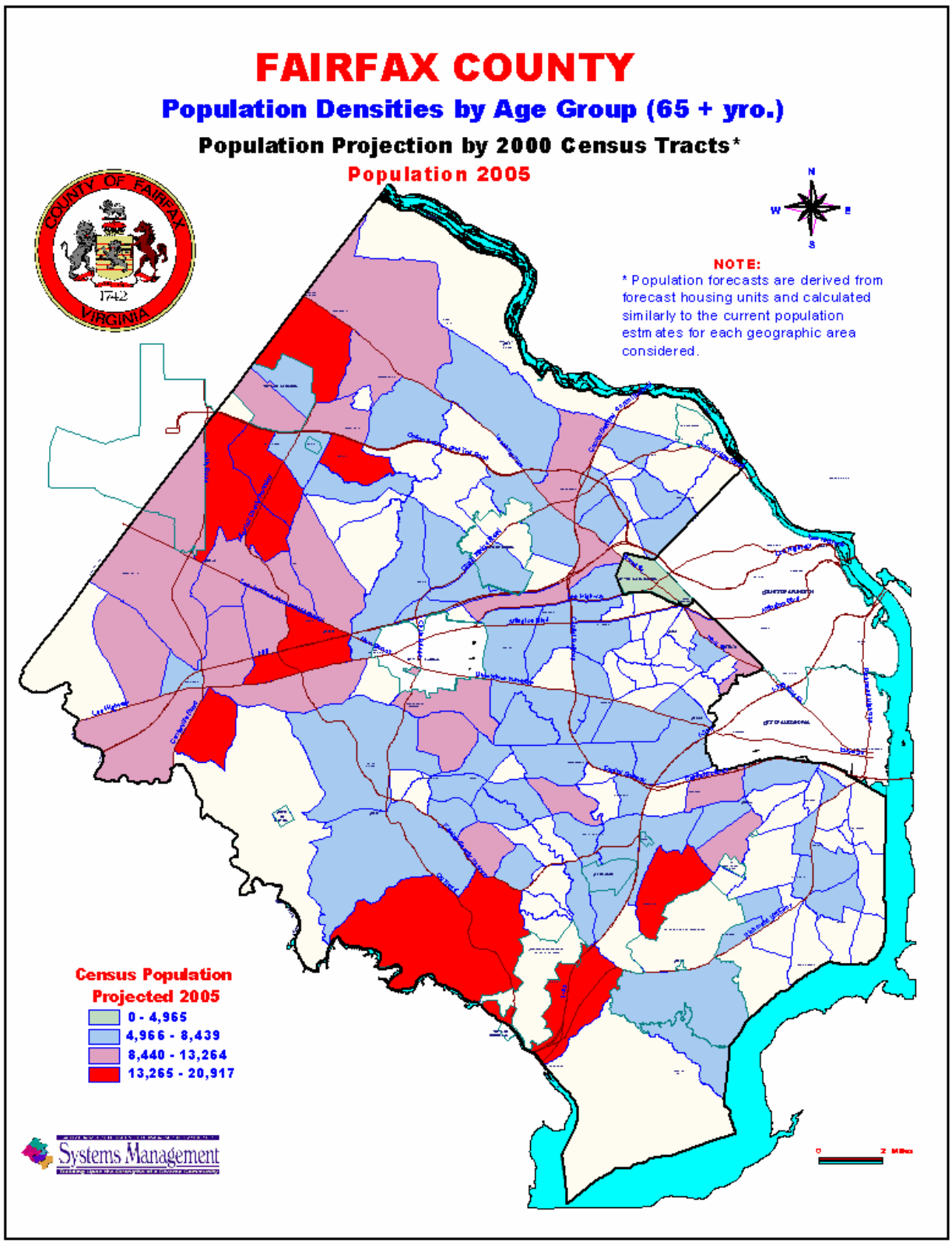
The following metrics are proposed as a means to measure and track changes in the delivery of home-based care services. It is key to define each criterion to be measured and the process for gathering the information now. If this is not done it may become

impossible to gather the data at a later date or prohibitively expensive. These metrics can be instituted at the conclusion of each fiscal year, unless otherwise noted.

1. Assess the number of clients served, services received and cost per service. This information should be gathered for clients receiving care in both the hourly model and the task-based approach.
2. Calculate the average waiting time for staffing a new client, from day of initial intake to first day of in-home service. After a complete referral (with no missing information) is submitted, the number of purchase orders not filled within contractual agreements should be determined.
3. Assess the client impact by change in aide due to number of complaints about aide or aide request to no longer service particular client.
4. Record notation as to reason client no longer receives home-based care services. Calculate percentage of clients who stop receiving services due to hospital admission, nursing home admission, client deceased, family assumes responsibility for care, client enters Medicaid personal care waiver program, financially ineligible, or client is functionally ineligible. This will require the addition of a field in the Harmony system in order to capture the information (a discharge field).
5. Distribute slightly revised versions of the Survey of Case Managers and Survey of Agencies to appropriate parties approximately one year from date of completion of CEAGH's study (recommended timeframe: March-April 2005). The purpose in distributing these surveys a second time would be to document improvements or changes in targeted areas (e.g., referral process, billing process, communication with agencies) from the November 2003 responses to the March 2005 responses.
6. Define criteria for quality of service received by the client. Case managers should visit clients immediately after an aide visit to more accurately assess conditions. These assessments could be done by the case manager during their quarterly visit.

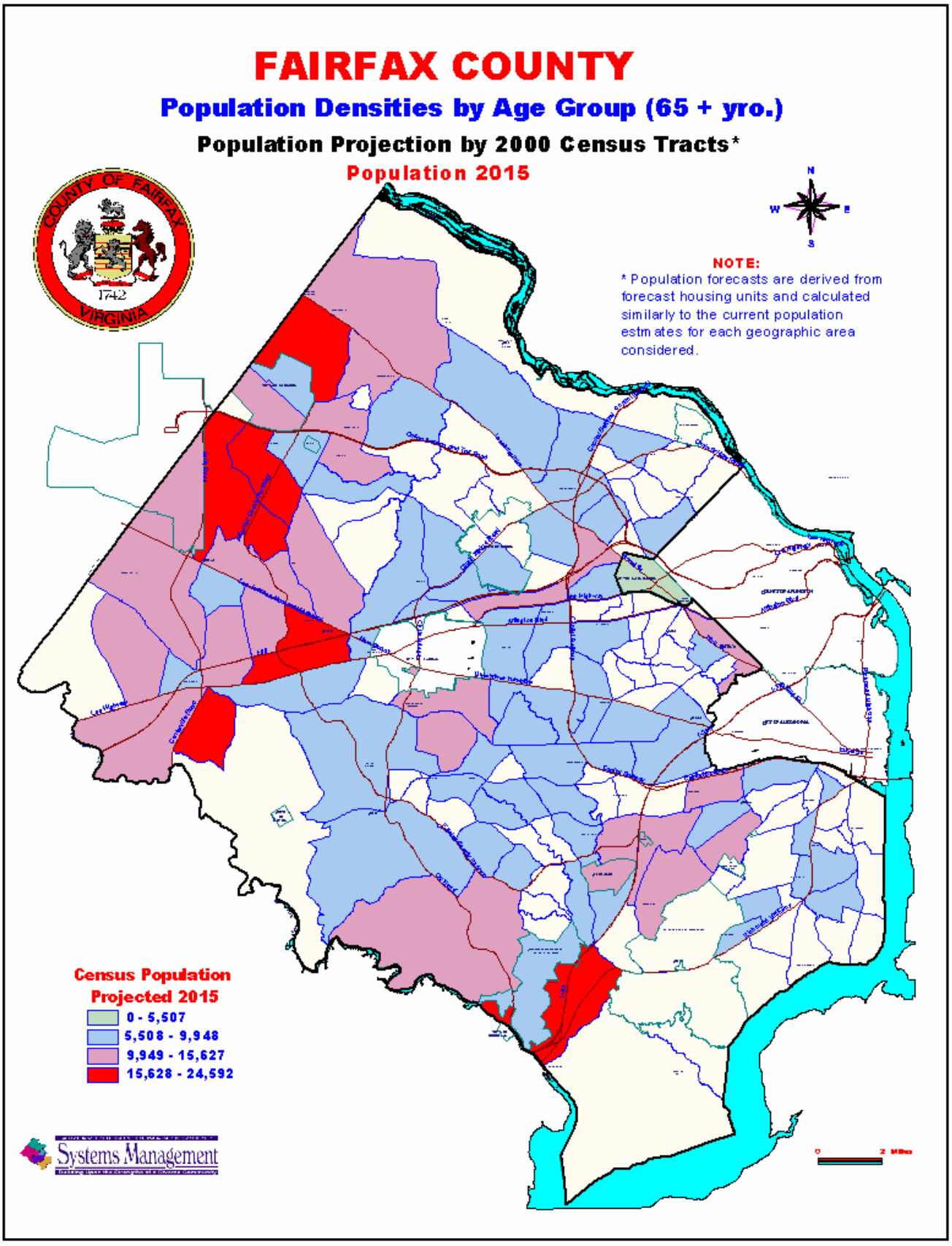
APPENDIX A
Fairfax County Population Projections

Figure A.1. 2005 Fairfax County Population Projection using 2000 Census Tracts



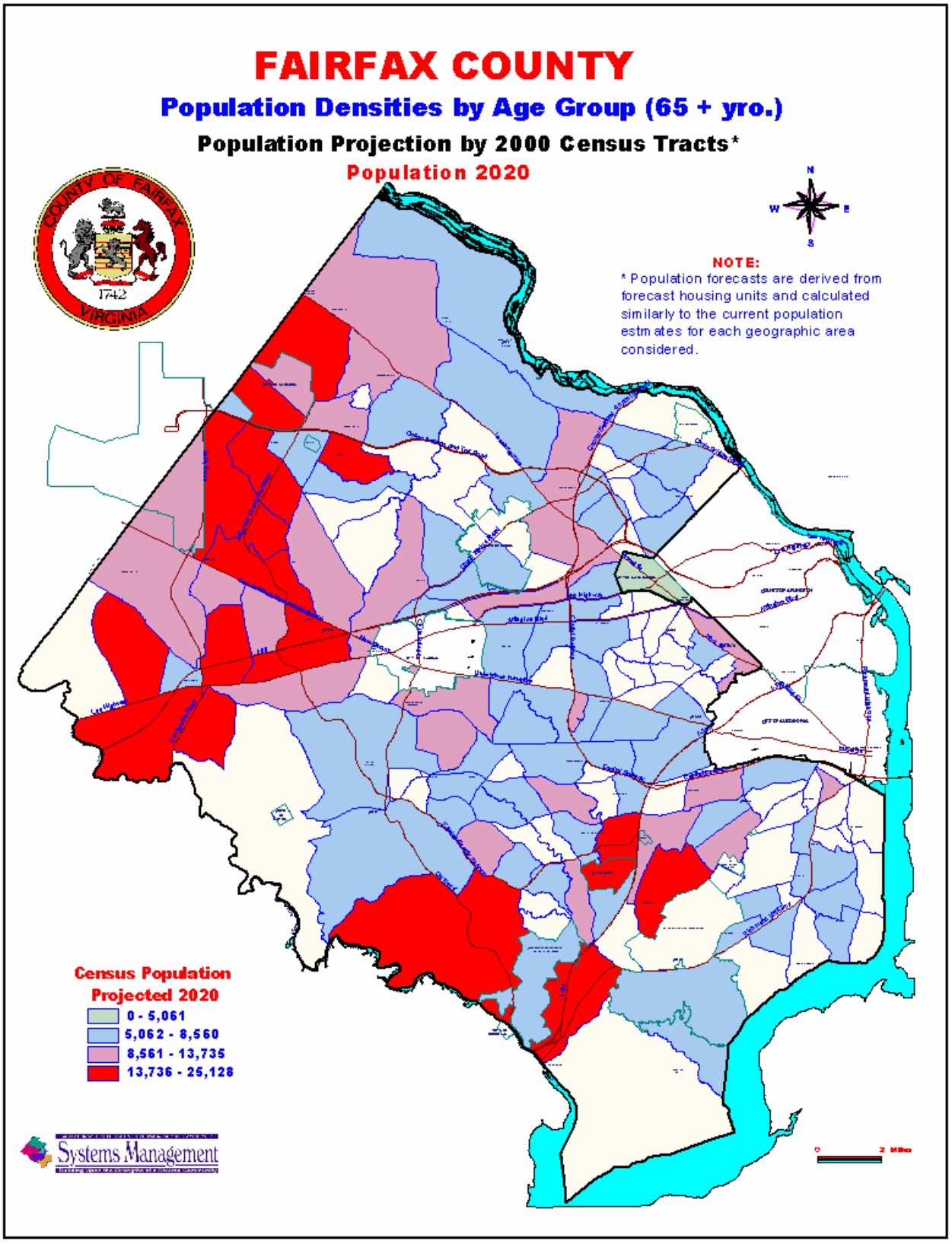
Source: 2000, Lathan Dennis, Fairfax County Government, Department of Systems Management for Human Service

Figure A.2. 2015 Fairfax County Population Projection using 2000 Census Tracts



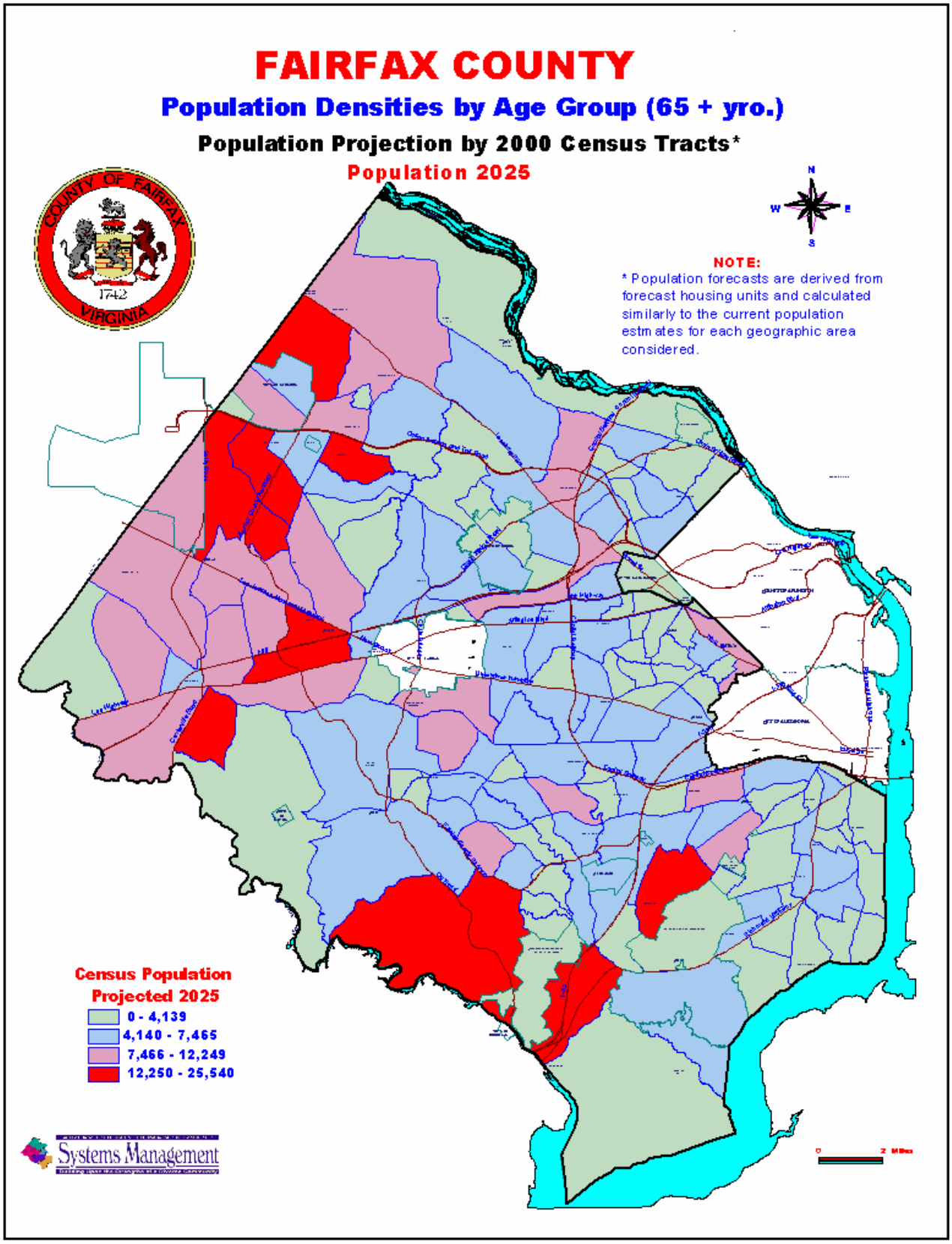
Source: 2000, Lathan Dennis, Fairfax County Government, Department of Systems Management for Human Service

Figure A.3. 2020 Fairfax County Population Projection using 2000 Census Tracts



Source: 2000, Lathan Dennis, Fairfax County Government, Department of Systems Management for Human Service

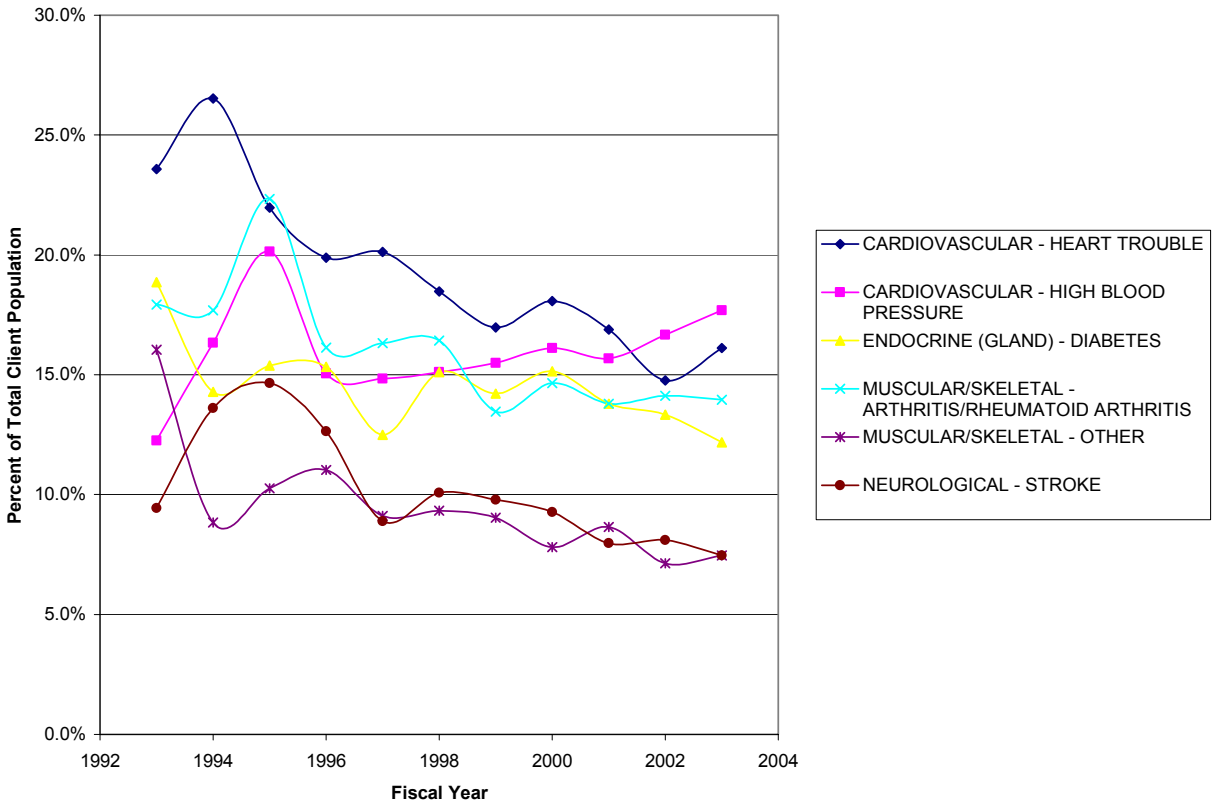
Figure A.4. 2025 Fairfax County Population Projection using 2000 Census Tracts



Source: 2000, Lathan Dennis, Fairfax County Government, Department of Systems Management for Human Service

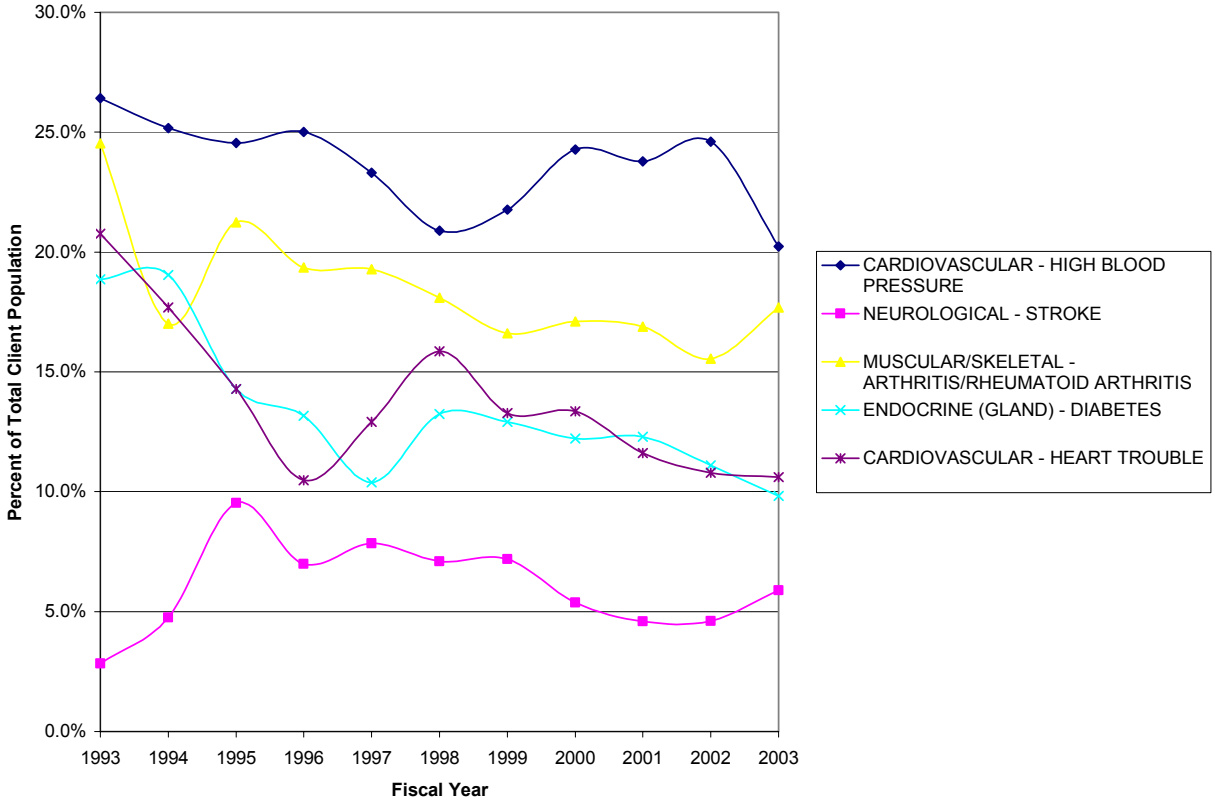
APPENDIX B
Diagnostic Code Analysis

Figure B.1. Primary Diagnostic Field, Top Six Conditions



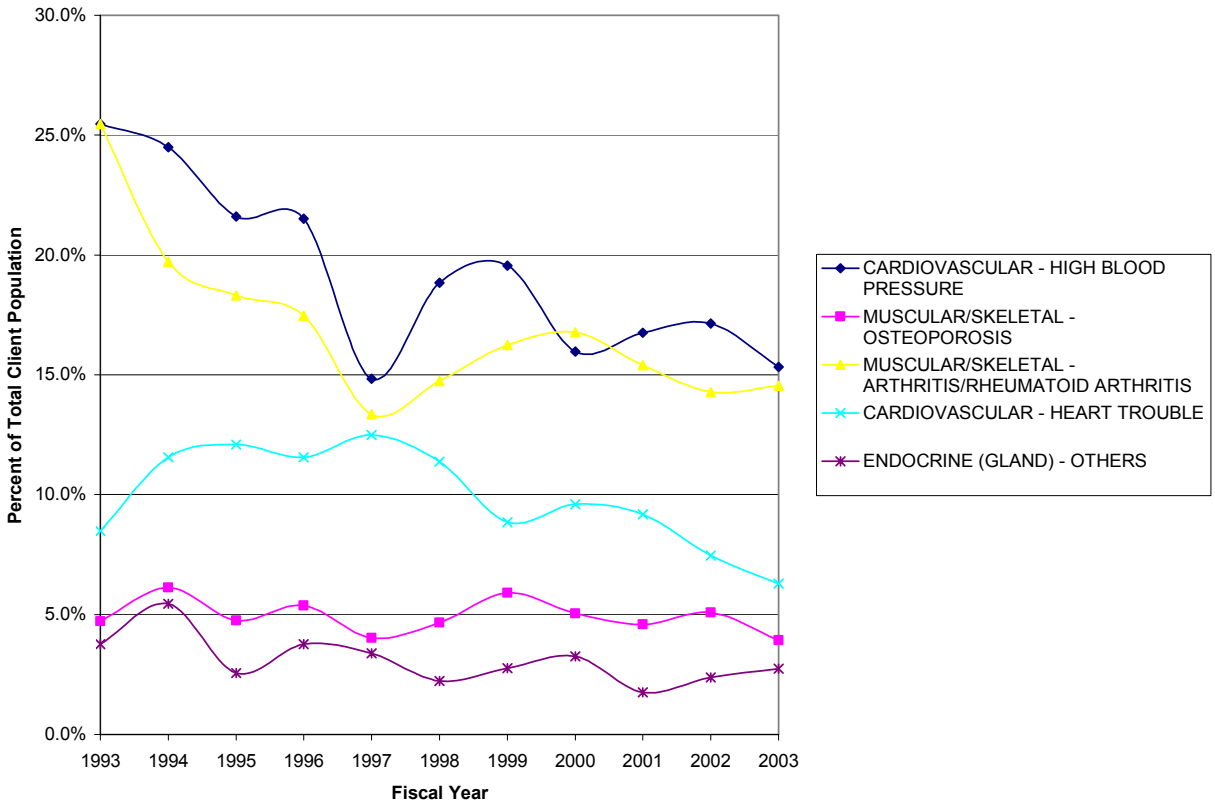
Source: CEAGH Data Analysis of the AADB data set

Figure B.2. Secondary Diagnostic Field, Top Five Conditions



Source: CEAGH Data Analysis of the AADB data set

Figure B.3. Tertiary Diagnostic Field, Top Five Conditions



Source: CEAGH Data Analysis of the AADB data set

APPENDIX C.1

Survey of Fairfax County Case Managers, Department of Family Services

1. Do you feel that you have adequate support regarding the provision and delivery of home-based care services? If not, in what ways could better support be provided to you?

2. Do you find the current referral system: (check all that apply)

   a. Is a good process for serving clients _____
   b. Is too time-consuming _____
   c. Could be improved _____
   d. Other: _____

3. In what ways can the current referral process be improved? Please be specific with your responses.

4. In what ways can DFS incorporate physical devices (e.g., walker, bed rails) into clients' home-based care services?

4.a. In what ways can DFS incorporate technology devices (e.g., automated medication dispenser, home monitoring) into clients' home-based care services?

5. What skills and knowledge could be improved in aides that provide home-based care services? (check all that apply)

   a. Handling challenging behaviors _____
   b. Understanding dementia _____
   c. How to utilize assistive physical devices (e.g., shower seat, bed rails) _____
   d. How to utilize assistive technology devices (e.g., automated medication dispenser) _____
   e. How to communicate and interact with family members _____
   f. Other: _____

6. In what ways can the agencies improve the quality of care offered to home-based care clients?

7. How effective is the communication system between the DFS Home-Based Care Coordinator, the Case Manager, and the Contract Agencies?

a. Very effective _____
b. Effective in most situations _____
c. Only slightly effective _____
d. Not effective _____

7.a. If in #7, you noted that the communication system was not as effective as is needed, in what ways could this system be improved?

8. In what ways would having an occupational therapist on call or on staff with DFS be of assistance to you and your clients?

9. What suggestions, if any, do you have for increasing efficiency in home-based care services? For example, do clients receive services shortly after eligibility is established? Is data entry a helpful or challenging means for maintaining client records?

Thank you for your time and information. If you have further comments, please feel free to note them below or contact Christy Jensen, Ph.D., at The Center for Excellence in Aging and Geriatric Health, #757/221-1971, cjjens@wm.edu.

APPENDIX C.2

November 2003

Dear Case Manager:

Attached to this letter is an important survey. Please take a few minutes to complete it and return to me in the postage-paid envelope that is provided **BY November 25, 2003**. Our research center has been tasked to study the way that DFS currently serves home-based care clients so that the needs of current and future clients can best be met, particularly with the increasing number of Fairfax area residents who will be in need of home-based care in the near future. Your comments and suggestions for serving clients are an extremely valuable part of this process. Therefore, it is important that we receive feedback on this survey from all social workers. It is not necessary to place your name on the survey and all responses will be kept confidential.

Please feel free to contact me should you have any questions about this survey or about our study. Thank you in advance for taking the time to share your comments and recommendations on this survey as it will help improve the home-based care that is provided to your clients. Again, please mail back your completed survey by November 25.

Sincerely,

Christine J. Jensen, Ph.D.
Lead Researcher
(757) 221-1971
cjjens@wm.edu

APPENDIX D.1

Survey of Agencies Contracted through Fairfax County, Department of Family Services & Health Department

** All responses that you provide will be treated in a confidential manner. When you answer these questions during the pre-arranged phone survey, you will be asked to answer each question with respect to the Department of Family Services and to the Health Department, as it is possible your experiences with these offices are different.*

1. Do you find the current referral system for home-based care clients: (check all that apply)

   a. Is a good process for serving clients _____
   b. Is too time-consuming _____
   c. Could be improved _____
   e. Other: _____

1.a. How often would you estimate you are able to provide services within 7 days of request for services?

   a. 95% of the time or better _____
   b. 80-94% of the time _____
   c. 60-79% of the time _____
   d. 40-59% of the time _____
   e. Less than 40% of the time _____

1.b. In what ways, if any, can the referral process be improved? Please be specific with your responses.

2. In what ways, if any, can the billing process be improved? Please be specific with your responses.

3. Are the services provided allowing people to remain in the least restrictive environment?

4. Are the case managers adequately trained to provide the needed services to clients? If not, what kind of training, skills, or knowledge would be of most benefit to them and their clients?

4.a. Are the aides adequately trained to provide the needed services to clients? If not, what kind of training, skills, or knowledge would be of most benefit to them and their clients?

5. Are services provided in the most effective and expeditious manner? If not, in what ways could services be provided more efficiently?

6. How would you rate the communication process with case managers with regard to coordinating care for clients? (check all that apply)

a. Is satisfactory _____
b. Is not satisfactory; too infrequent _____
c. Is not satisfactory, challenging to reach _____
d. Could be improved by: _____
_____

6.a. How would you rate the communication process, including quarterly meetings and ongoing communication, with the home-based care coordinator: (check all that apply)

a. Is satisfactory _____
b. Is not satisfactory; too infrequent _____
c. Is not satisfactory, challenging to reach _____
d. Could be improved by: _____
_____

7. Do you receive adequate feedback from the case managers in order to evaluate and monitor the quality of services provided by your aides? If not, in what ways could feedback be improved?

8. If you currently offer benefits to aides, please explain. If not, is your agency planning to offer benefits in the future? Please explain your plans.

9. What opportunities exist within your agency, or could exist, for a career ladder for aides?

10. Finally, what would you identify as the biggest challenge in terms of providing services to home-based care clients? What elements of providing these services are working well?

Thank you for your time and information. If you have further comments, please feel free to note them below or contact Christy Jensen, Ph.D., at The Center for Excellence in Aging and Geriatric Health, #757/221-1971, cjjens@wm.edu.

FAIRFAX COUNTY

APPENDIX D.2

V I R G I N I A

October 16, 2003

Phillippa Johnston, Director
Professional Healthcare Resources, Inc.
6066 Leesburg Pike, Suite 950
Falls Church, VA 22041

Dear Ms. Johnston:

The Fairfax County Department of Family Services and Health Department have contracted with the Center for Excellence in Aging and Geriatric Health to perform a study of Home Based Care in Fairfax County. Fairfax County is interested in your opinion as an agency who has been working with us for a number of years. In order to clearly understand your thoughts on improving Home Based Care, the Center for Excellence will be conducting a short survey over the telephone. Dr. Christy Jensen, of the Center for Excellence, will be contacting you in the next few weeks to schedule a time to discuss these survey questions with you, as well as provide you with an advance copy of the survey. We anticipate this short interview to require approximately twenty (20) minutes of your time. Fairfax County appreciates your time and effort on this survey to aid us in perfecting the delivery of Home Care Services in Fairfax County for all parties.

Sincerely,

Elizabeth Shirley
Program Manager, Adult & Aging Services

Shauna Severo
Long Term Care Coordinator

APPENDIX E.1
Table of Home-Based Care Services Offered in Local Jurisdictions

Local Departments of Family Services/Social Services	Montgomery County	Arlington County	Loudoun County	Alexandria	Prince William County
Contact Person	Manager, Home Care Services (collaborative program state Department of Health & Human Services)	Manager, Nursing/Case Management and Cluster Care, Aging & Disability Services Division (collaborative program with social services, mental health, health)	Director, Adult Services/Adult Protective Services	Manager, Home Care and Adult Protective Services	AAA Manager (collaborative program with social services, still two different budgets)
# of Clients Served in Fiscal Year 2003	616 unduplicated	Nursing/case mgt program – 552 unduplicated clients (100 of those received bathing services); Companion services – 420 unduplicated clients	Served 113 unduplicated clients; 75 percent are 60 years of age and older	Served 170 unduplicated clients; at least 80 percent were 60 and older; no personal care services are provided, only companion services	76 unduplicated, all 60 and older; also serve under-60 population using team approach with social services
Amt of Service Hours Delivered in Fiscal Year 2003	Provided 185,912 hours of service; no minimum number of hours per client	Not available; however, many hrs dedicated to Medicaid pre-screening, health/wellness presentations, flu outreach and assessments with APS	Average amt of hours delivered was 19.6 hrs/wk, ranges from 3-30 hrs/wk	Don't have record of total hrs delivered; average was 12 hrs/wk, no minimum and 20 hrs is the max	17,044 hours delivered
Eligibility Criteria	Sliding scale fee, no client is disqualified based on income; office would like to consider individual's assets but it is currently not be considered to determine eligibility	Cluster care (new model) – clients who meet social service guidelines receive free service; if over guidelines, sliding scale from $0-$20/hr (approx. $1500/month/single person to maintain	The majority of clients are eligible to receive free services at 50 percent of the VA Median Income but high-risk clients are eligible at 70 percent	The majority of clients are eligible to receive free services at 50 percent of the VA Median Income but high-risk clients are eligible at 70 percent	Use health department sliding scale fee system (ranges from $0-$15/hr), state allows medical deductions to create AGI, assets do not count with monthly income evaluation; case managers use a

		eligibility; Nursing/Case Mgt – nurse visits are free, offer assistance with bathing on sliding scale ($0 or $12/bath based on income)			risk factor scale (created from UAI) to assign risk factor points, which determines priority of receiving services; points are rated by staff and reviewed by AAA mgr (e.g., 40 points for home care, 70 points for personal care)
Cost per Client	IHAS (In-Home Aid Services) is a local program that incorporates public health and social services; utilize a sliding fee scale so that family of 1 would be eligible at $31,119 or less annually, case managers handles assessment; individuals are not disqualified from services because of income but fees range from $2/hr to $20/hr; $20/hr/vendor cost of care; self-employed individuals receive $9.50/hr	See above regarding sliding scales; all aides are required to be paid living wage ($10.98/hr)	Aides are paid on a graduated scale depending upon level of training; decided not to do a sliding scale because the number of clients who would be left without the ability to pay for services	No contract agencies are used, only private providers, currently have 130 under contract, paid at 1 of 2 rates: $8/hr with training; $6/hr with no training, companion aid coordinator oversees all private providers	Agency who provides lowest bid on referral receives case; client is billed on monthly basis by AAA, AAA pays agency
Waiting List	Agency can only serve so many clients, only place clients on waiting list due to finite funds, rank based on prioritized need (e.g., family member lives with them or client lives alone); waiting list averages 100	No waiting list for cluster care; waiting list exists for nursing/case mgt – 29 clients on the waiting list Sept. 2003	Have had a waiting list for 3 years; currently have 56 on the list, strictly driven by lack of funds, could take on more through agencies, but short-staffed for case mgrs; used to only keep 20 on a waiting list but	Waiting list began in Sept. 2002; ~ 100 on the list, potential clients are told it may be up to one year, they are provided pre-screening for Medicaid waiver and are put in contact with agencies to provide	Budget is $220,000; waiting list exists, no cap on total number placed on waiting list, cannot be considered for services until assessment is done, assessment is active for 3 months, potential

	individuals		needed to show total numbers for budgetary purposes; created guidelines for waiting list (e.g., resident must be in the county at time of request; $ is held for 45 days); percent of population is at-risk on waiting list; and if APS case can receive 3 months of care while families arrange other plans	HBC, APS cases are put higher on the waiting list but no emergency funds exist to see that they get care when needed; no guidelines for waiting list have been implemented	clients notified in writing when being placed on waiting list; AAA mgr provides status and updates of waiting list with staff and offer families other planning services while on the waiting list; interested in receiving more information about suitable guidelines
Utilization of Agencies vs. Private Providers	Utilize both agency vendors and self-employed vendors	Transitioning solely to agency vendors; families who are providing care are encouraged to become employed with the agency and they will then earn a better wage	Have 1 contract agency; did away with private providers 7 years ago due to tax situation, feasibility study to keep self-employed aides found it more efficient to contract out through agencies; RFP stated that agency was to hire as many private providers as possible, family members were to receive training; plan to keep 1 contract agency	No contract agencies are used, only private providers, currently have 130 under contract, paid at 1 of 2 rates: $8/hr with training; $6/hr with no training, companion aid coordinator oversees all private providers	Handled through purchasing office; used to have 4 contract agencies, now have 2 with one agency handling 90 percent of coverage; expect response 24 hrs from referral, start service delivery in 5 days; DSS maintains a registry of self-employed aides, but prefer not to use family members (viewed as supplementing care); AAA helps DSS with recruitment and management of self-employed aides
Implementation of New Models of Home Care Services to Meet Needs of Growing Populations	Have done field visits with Fairfax County – comparable jurisdictions based on population and income; always been a state program of social	Transitioning to Cluster care program with pilots in progress (2 sr. high rises), county has been divided into several clusters with	Currently have 8 case managers and 1 case aid; all have a mixed caseload; have been considering looking at case mgr specialization	Have sufficient # of aides, looking at contracting out for some aide services, and expanding route system	Upcoming LTCCC meeting will address task-based care options; area has had 4 new independent housing developments

	services; Montgomery county saw benefit of in-home support services and in 1995 integrated services into the Department for Health & Human Services; have found this program is working well	maintenance services being primary focus; money is combined from AAA +social services + fed match + county supplements); Will have 2-3 contracts with vendors servicing clusters bid on by vendors, generally awarded 1 02 clusters, initially has but hours by 40 percent; RFPs require aides be paid living wage	for future so that some handle HBC and others handle APS		emerge over last 2 yrs; grateful that county sends all proposals for housing to AAA for their input/feedback; concern with meeting the demand from the growth
Incorporation of Adaptive Equipment	Staff are supportive of equipment options, try to help financially-strapped clients with purchasing equipment, no OT on staff, case managers make recommendations to clients	3 nurses and 1 AAA employee (OT) received a grant for AT through a commission in Arlington; developed a traveling suitcase to demonstrate low-tech devices; worked with Sunrise where an apt has an ongoing demonstration - trained residents at Sunrise to man the apt on weekends; also purchased some equipment for families who couldn't afford it; nurses encourage clients to use equipment or refer them for skilled care, they do assist with paperwork and ordering of equipment; applied for but didn't receive a training grant to teach	Case mgrs do look for AT needs in clients; office has small pot of $ to purchase equipment when needed, also case mgrs encourage clients to speak with their doctor or with home equipment company; lending closet within community was a challenge as equipment was heavily used and in need of repair, therefore, Loudoun has established it own lending closet, offsite, work with medical equipment personnel at local drugstore to verify safety; equipment on loan includes scooters, wheelchairs, walkers, commode seats	Social workers are familiar with devices, help put clients in touch with home equipment companies; have established a "give-away" closet for medical equipment	Created an assessment package which includes forms for agency programs, fact sheets on personal emergency response systems, and information on medical equipment/devices; established a loan closet and also work with Project Mend-A-house (offers assistance with safety inspections and installation of equipment); also stay in touch with VATC-Virginia Assistance Technology Center – which shows staff about gadgets and devices, office wants to educate consumers about options

		aides in agencies benefits of AT; new focus in educ. Programs to community and staff to promote use of affordable AT			
Hourly vs. Task-Based Models	All services are billed in hours; formerly used cluster services but did not find it cost effective and not many residents were interested	All services are delivered in hours; developed service evaluation instrument to determine hours needed	All services provided in hours; heard from Home Care Team and Medical Care Team about task-based and will continue to explore if this is do-able	All aides invoice services in terms of hours, clients in high rise apts are part of the route system, where 1 aid cares for approx. 6 clients, guarantee daily contact with aide and aide uses own discretion to determine when services need to be delivered	Everything is billed in terms of hours except the ADL Bath Program – billed by visit
Acceptability Rates of Clients	Utilize an automated quality assurance manual, with a standardized tool; POMP – Performance Outcome Measurements Project, take monthly readings on client satisfaction; Hold weekly conference will merit staff and they undergo annual performance evaluation; quality assurance expectations with vendors – they are to visit quarterly with their aides and offer training programs	Included in the RFP, vendor is required to measure satisfaction of clients and aides on an annual basis; Aging & Disability Services Div. works with vendors to handle complaints or concerns	Typically do a client satisfaction survey every other year, receiving high levels of satisfaction; when complaints are registered, office encourages family to work with agency first	Client satisfaction survey is completed annually, receiving good evaluations, had heard rumors that clients were not speaking honestly about the care they were receiving for fear of losing services; office investigates all complaints with "fresh eyes approach" bringing in different case mgr than assigned case mgr	Client satisfaction survey is conducted annually by AAA; concern with clients that are not reporting problems; prefer families communicate first with agency; currently struggling with coverage issues; created CAN – CNA Advocacy Network to address recruitment, training, and retention of aides

APPENDIX E.2
Outline of Home-Based Programs (non-local jurisdictions)

Home-Based Care Programs	Program Elements
Cash and Counseling Program "Independent Choices" Arkansas[18]	▪ Eligible Medicaid beneficiaries receive a consumer-directed allowance in place of traditional agency services. ▪ Participants of the "Independent Choices" program were given a flexible monthly allowance to purchase services and equipment. The program also provides fiscal assistance and counseling to help consumers make decisions or to designate family members to make decisions for them. Counselors monitored client satisfaction, safety, and usage of funds. ▪ The demonstration period lasted from 1998 to 2001 and 11 percent of Medicaid beneficiaries participated, either being assigned to a treatment group ("Independent Choices") or to a control group (received traditional agency services). Independent Choices also exists in Oregon. ▪ **Findings:** ▪ "'Independent Choices" Program greatly increased the likelihood that beneficiaries received paid assistance." ▪ Treatment group members were more likely to receive assistance during the evening, a time period that traditional agency services was not able to address. ▪ Treatment group members were more likely to order and obtain needed equipment to assist with activities and communication and thus were able to reduce the number of hours of total care received, as compared to the control group ▪ Medicaid expenditures were higher for the treatment group because the control group used fewer than the authorized services for them; however, non-personal care services long-term care Medicaid services, such as nursing facility and hospitalization were reduced. ▪ **Similar Programs:** ▪ Consumer Directed Attendant Support (CDAS), Colorado (initiated December 2002).[19] ▪ Back-Up Support when Attendant is Absent, Alameda and San Francisco Counties, California; Program is part of California's In-Home Supportive Services (IHSS) Program. Public Authorities are provided who serve as employer of record for attendants clients hire. The Public Authority contracts with agencies who have aides on-call or who are able to provide back-up support.[20] ▪ Pathways to Choice, Minnesota's Personal Assistance Program (initiated October 2001).[21]
Atlanta Regional Commission[22]	▪ Calls begin in AAA; I & R system receives 4,000 calls/month ▪ Utilize ESP (Elder Services Program) software (client and service side); 15,000 services and 5,000

[18] Dale, S., Brown, R., Phillips, B., Schore, J., & Carlson, B. L. (2003, November). The effects of case and counseling on personal care services and Medicaid costs in Arkansas. *Health Affairs*. http://content.healthaffairs.org/cgi/content/full/hlthaff.w3.566v1/DC1.
[19] Colorado – Increasing Persons' Control Over Personal Attendants (March 10, 2003). *Promising practices in home and community-based services.*
[20] California – Local Programs Providing Back-Up Assistance (March 31, 2003). *Promising practices in home and community-based services.*
[21] http://www.dhs.state.mn.us/Contcare/disability/pcagrant.htm.
[22] "Utilizing technology to support home and community based services" presented by C. Schramm, Atlanta Regional Commission, October 2, 2003; SPRY "Computer-Based Technology and Caregiving for Older Adults" Conference and information provided during CEAGH teleconference with C. Schramm, C. Berger, and J. Grogg 12/2/03.

Atlanta, Georgia	providers in database ▪ Active with NAIR and AIRS (Alliance for Information and Referral Systems) ▪ Utilize CHAT (client health assessment tool); protocols for AT, if diagnosis triggers need software makes recommendation; CHAT only marketed in GA ▪ Medicaid Cost Share and Title III funds ▪ Waiting list: for Medicaid waiver 823 placed on list, priority system based on DON-R (demonstration of need-revised); HCBS utilizes same procedure ▪ Hours/Wk: Medicaid clients eligible for maximum of 5 hrs/5 days/wk; Title III clients eligible for 10-12 hrs/mo ▪ State required unit cost per service ($18/hr); contract with private agencies who pay aides $8-9/hr ▪ 2, 036 unduplicated client served during fiscal year 2003 ▪ Aides employed by private vendors or by county ▪ Families can participate in voucher program to purchase own services for client based on list of approved providers. Cap is approximately $1000/yr depending on which organizing agency (e.g., Alz. Assoc.) administers the voucher. ▪ Received RWJ Grant to: 1) study NORCs (naturally occurring retirement community) of high density areas of older people. Beginning to use GIS mapping to bring services into smaller neighborhood sites through the use of volunteers and placement of these offices in neighborhoods; 2) develop web application to connect hospitals, discharge planners can access database (service provider side), hospitals pay yearly subscription $7500 ($3000 if agency targets low-income clients and no charge for contract agencies) ▪ Software system development began in mid-1990s, now have access and client server versions; now used in Missouri, Iowa, Illinois, New Mexico, Alabama, Ohio.[23]
Department on Aging[24] **Orange County, North Carolina**	▪ Home Safety Assessments: Staff OT offers in-home consultation to assess person's functional level. Recommendations for alterations to home environment or utilization of adaptive devices are presented. ▪ Friend to Friend Program: Utilization of screened volunteers who are paired with community-dwelling older residents to enhance the well-being of residents living along. Volunteer companions assist with shopping, dining, home chores, etc. ▪ Telephone Reassurance: Daily telephone calls are placed by staff members or volunteers to older adults living alone. Calls are made according to pre-arranged time and emergency contacts are recorded.
Center on Aging[25] **Norfolk, Virginia**	▪ Senior Services of Southeastern Virginia (SSSEVA), the AAA office, combined services with City of Norfolk Adult Services and became known as "Center on Aging" (August 2002) ▪ This coordinated effort, which remains a non-profit agency, was brought about following successful effort with same offices in Wisconsin. ▪ Three guiding principles: 1) Offer variety, quality, and magnitude of services achieved through integrating services/offices; 2) be inclusive and regional; and 3) utilize innovation to replace traditional ways. ▪ Two teams of 7 eligibility workers, 6 social workers, and a team supervisor each. Team members receive cross training. ▪ SSSEVA charges City of Norfolk $10,000/month as a management fee for their services. ▪ Have added 6 customer service representatives and Asst. Dir. for Clinical Services.

[23] Full day and ½ day training for interested agencies; C. Schramm, Chief, Aging Services Division, quoted $500 plus travel expenses for day-long training for 2 Atlanta personnel.
[24] http://www.co.orange.nc.us/aging/careproviders.htm, 11/19/03.
[25] Information based on CEAGH meeting with J. Skirven, Executive Director, SSSEVA, 10/6/03.

	▪ Social and eligibility workers are paid by City and managed by SSSEVA. ▪ Director of Long-Term Care and Customer Service Representatives are employees of SSSEVA. ▪ SSSEVA has 10 care coordinators, one per jurisdiction, with 2 of these care coordinators serving City of Norfolk.
Department of Human Services[26] **Oregon**	▪ Utilize both hourly and task-based models. Aides are paid hourly and each task is allotted set amount of time (e.g., bath is equivalent to one hour). ▪ "Shared attendant" model is utilized in senior –living buildings; cluster care is not provided in neighborhoods. ▪ Currently, there is no waiting list but a cap has been established. ▪ Eligibility: 300 percent of SSI in state; assets, except for value of home, are considered. ▪ Following assessment, clients are assigned service priority level.
Home Health Management Services, Inc.[27] **New York, New York**	▪ Shared Aide demonstration project (initiated to combat aide and budget shortfalls. ▪ Available to Medicaid-eligible recipients. ▪ Consolidation: 1) clients residing in one specific geographic area served by one agency; 2) home care aides provided care in team approach; 3) clients served based on tasks not hours. ▪ Aides participated in cluster care teams were given wage increase (justified in terms of cost savings). ▪ Cluster care teams referred clients to community resources and encouraged family and community support. ▪ Created a more detailed care plan, with emphasis on individualize care plans. ▪ Benefits: 1) no idle time for aide – reduced hours per client but increased clients served; 2) if aide was sick another team member could care for the client; 3) increased client privacy as aides were no in the home for lengthy times; 4) aides rotated tasks to be accomplished and emergencies could be responded to immediately ▪ Challenges: 1) clients reported loss of steady companionship and/or control over aide's time; 2) with 2 or more aides serving clients, it was difficult to identify aide responsible for noted problems. ▪ Cost savings analysis: For 106 clients in cluster care compared to 106 in traditional care, savings of ~$671,000 or 32.3 percent less annually for cluster care clients.
HCR (private home health agency)[28] **Rochester, New York**	▪ Utilized shared aide approach in Section 8 housing and residential facilities, where aides work full-time and serve ~6 clients/day, returning to clients as needed throughout the day. ▪ Considered expanding to neighborhoods but met too many challenges. ▪ Had over 100 home health aides. ▪ Large training program, training lab and education room. ▪ Aides expected to have own transportation.
Home Care Partners[29] **Washington, D.C.**	▪ Home care assistance with a particular emphasis on helping people with Alzheimer's disease or other memory impairments. ▪ Cluster care is utilized so that clients living in senior citizen buildings or apartment communities share an aide throughout the day. ▪ Field counselor: more experienced and skilled aides serve as field counselors and provide peer support, supervision, and training to aides while on client visits.

[26] Based on information provided during phone interview with Mary Lang, Department of Family Services, 12/4/03.
[27] Balinsky, W., & LaPolla, J. F. (1993, April). The shared aide program. *CARING Magazine,* 24-30.
[28] Based on information provided during phone interview with Peggy Cressy, Director of Community Health, INOVA, formerly of HCR, Rochester, NY, 1/15/04.
[29] http://www.homecarepartners.org/programs.html; 12/9/03.

State Office on Aging **Kansas**[30]	▪ Utilizes 1915C waiver for the frail elderly which incorporates the use of assistive technology (lifetime max of $7500/client). ▪ Use of assistive devices is contingent on reducing specific services in care plan.
The Senior Alliance (AAA) **Wayne, Michigan**[31]	▪ Utilize "preferred provider networks" where provider agency accepts reduced fees in exchange for more volume through geographic specialization. ▪ Agencies bid on geographic localities they are most able to serve. ▪ Their pay system allows for ¼ hr increments of service (due to HIPAA standards). ▪ Assets are considered (must be less than $2000) in establishing financial eligibility. ▪ A waiting list, based on priority need, is currently in place. Clients can opt for a private-pay program with reduced fees. ▪ Agency has established 10 key objectives for cost containment, including continuous education on available community resources, utilization of National Family Caregiver Support funds, and preferred provider rates (volume rate agreements).
Department of Health and Human Services[32] **New Hampshire**	▪ Single entry point for state for all adult and aging services; there are no Area Agencies on Aging (AAAs). ▪ Offers a $1500 cap per client for assistive technology through its Home and Community-Based Care – Elderly and Chronically Ill Waiver. ▪ The assistive technology, including medication reminders and voice-activated computer systems must be tied to support plan. Over a three-month period, the case manager must verify that the use of assistive technology reduces level of services needed. ▪ Equipment is provided through enrolled providers and through an organization that recycles equipment and verifies safety. ▪ ATECH office provides training to case managers on use of equipment and devices. ▪ The maximum amount of personal care per client is 25 hours/week.
TeleCare Connections Program[33] **Monmouth County, New Jersey**	▪ NJ EASE (Easy Access Single Entry) is a component of the NJ Office on Aging; contact with one number provides information and assistance on senior services throughout the state. ▪ Monmouth County Office on Aging is in partnership with: Verizon, Administration on Aging, State of New Jersey Department of Health and Human Services, Visiting Nurse Association of Central New Jersey, and CentraState Healthcare System. ▪ TeleCare is a virtual network, using a camera, television, and the Internet, to bring together clients, informal caregivers, and professionals. ▪ Program goals are to help seniors reduce isolation and improve socialization. ▪ Four projects include: disease management, nutrition therapy and medication alert, telehealth, and video-conferencing as a tool for lifestyle support.

[30] Based on information provided in e-mail from Deb Schwarz, Kansas State Office on Aging, 11/21/03.
[31] Based on information provided in e-mail and phone interview with Kevin McGuckin, Associate Director, AAA, Wayne, Michigan. 11/18/03.
[32] Based on information provided in e-mail and phone interview with Jill Burke, Disability Policy Analyst, DHHS, NH; 11/24/03 and 12/2/03.
[33] http://www.visitmonmouth.com/aging/programsservices.asp, 7/22/03.

APPENDIX F
Virginia Medicaid Waiver Service Matrix[34]

Services	AIDS Waiver	CD-PAS Waiver	DD Waiver	E&D Waiver	MR Waiver	Tech Waiver
Adult Day Health Care				√		
Assistive Technology			√		√	√
Attendant Care/Consumer-Directed Personal Assistance	√	√	√		√	
Case Management/Support Coordination	√		√		√	
Companion Services			√			
Companion Services (Consumer-Directed)			√		√	
Crisis Intervention/Stabilization			√		√	
Day Support			√		√	
Environmental Modifications			√		√	√
Family & Caregiver Training			√			
In-Home Residential Support			√		√	
Nutritional Supplements	√					
Personal Care/Assistance Services	√		√	√	√	√
Personal Emergency Response Services			√	√	√	
Prevocational Supports			√		√	
Private Duty Nursing Services						√
Residential Supports (Congregate)					√	
Respite Care (Agency-Directed)	√		√	√	√	√
Respite Care (Consumer-Directed)	√		√		√	
Skilled Nursing Services	√		√		√	
Supported Employment			√		√	
Therapeutic Consultation			√		√	

√ - indicates this service is offered under the waiver specified

[34] Service Matrix reprinted with permission of Karen Lawson, Supervisor, Long-Term Care Policy Unit, Department of Medical Assistance Services.

APPENDIX G

IT System Investment and Support Costs (Annual)			
	Unit Cost	Units	Total ($)
Tablet PC Cost (HP Compaq Tablet PC TC1100)	$ 1,849	30	$ 55,470
Development Cost	$ 20,000	1	$ 20,000
Training and Rollout Cost	$ 5,000	1	$ 5,000
Annual System Support and Maintenance	$ 7,500	1	$ 7,500
Total System Cost			$ 87,970

Development costs estimated based on using Tablet PCs web browser interface. The web based application developed for Harmony would be used on the Tablet PC without modification. The development cost would be for engineering and developing a temporary data file and automatic transfer of this temporary file through the Tablet PCs 802.11 wireless interface. The Tablet PC would be a passive device in the field used for data collection. The Tablet PC would not interact with the main office Harmony system until the unit is within the office and within the 802.11 wireless signal range through a secure encrypted data transfer socket. Further engineering and discussion with the developers of Harmony are needed to refine the development cost.

Administrative Assistant Support Costs (Annual)			
	Unit Cost	Units	Total ($)
Administrative Assistant	$ 16	2080	$ 33,280
Overhead	27%	1	$ 8,986
Total Cost - Administrative Assistant			$ 42,266

Return on Investment	
Total IT System Costs	$ 87,970
Administrative Assistants (2 for Case Management Support)	$ 84,531
Return on Investment (Years)	1.04

Savings After System Payback			
	Unit Cost	Units	Total ($)
Administrative Assistants (2 for Case Management Support)	$ 42,266	2	$ 84,531
Annual System Support and Maintenance	$ 20,000	1	$ 20,000
Annual Savings			$ 64,531
Return on Investment After System Payback (Years)			0.24

APPENDIX H

(ST/LT) Seek professional IT/IS Systems Engineer with strong project management experience in a variety of disciplines.

1. Professional will bridge a communication gap between DFS and Harmony
2. Professional will prioritize system improvements
3. Allow the committee to strategize on improvements to the system including the success of the web based rollout.

(ST) Establish a committee to address the issues with the rollout of Harmony. This committee shall be carefully selected to allow for the successful implementation of this IT/IS solution. Committee should include IT professional, case manager, management representation, GIS Department representation, and administrative representation.

(ST) Map clients to individual providers and agencies. Using geographical information, streamline the referral process to optimize travel for either the individual providers or the agency aides. Work closely with GIS staff to integrate these features into Harmony and the referral system. Case manger or referral coordinator will have the ability to look at a map for best suited fit for particular clients based on a variety of conditions for the client service provider and agency.

(ST/LT) Look at incorporation of a tablet personal computer (PC)

1. Allow case managers to carry tablet PC with them to client interview/evaluation.
   a. Use the same web-based interface that is currently being designed for Harmony.
   b. Incorporating tablet PCs will require training of case manager and management staff.
2. Enter the data at the source one time, eliminating errors of data transcription.
   a. Extensive reduction in paperwork and time to re-enter data into Harmony.
   b. Reduction in data entry errors. The data will be entered directly by the individual collecting the information.
3. Information will automatically synchronize when returning to office through a secure wireless interface.
   a. The main data set will be updated without any action by the case manager.
   b. Data will be stored on PC in an encrypted file.
4. The return on investment for the original system is a little over one year (1.04). The savings once the system is paid off is ¼ year (see Appendix G).

(LT) Identify an expert in Knowledge Management, Systems Engineering, or other computer systems-related field who can assist with the development of any IT-related tools used in assisting FCDFS with the overall efficient delivery of services.

1. Invite the personnel from Atlanta to visit FCDFS and demonstrate the capabilities of their knowledge management system or web portal.[35] Review

[35] Administrators with the Atlanta Regional Commission informed CEAGH that they would make themselves available to travel to meet with FCDFS staff and demonstrate their software and processes for serving home-based care clients. Staff from Atlanta quoted $500 as the amount they would require to provide this in-office demonstration.

their Knowledge Management tools to assist with current systems design and improvements.

(ST/LT) System Training

1. New IT/IS systems are awkward when first used. Provide detailed consistent training to all users that explains the importance for the use of the system and how it will benefit all levels in the organization.
2. Use staff member to do the training. Select a Case Manager who is gifted with the use of IT systems. Train this person on the correct use and then allow this person to interface with other Case Managers for training purposes.

(ST) Have the Harmony system provide decision support for both the intake and referral processes.

1. Determine client eligibility and types of services to be provided.
2. Using GIS and other factors, provide a referral to the appropriate contract agency.

(ST) Include process system checks within the decision support area of Harmony.

1. Provide graceful recovery from data entry errors
2. Keep data entry screen open until all information is entered
   a. Allow for auto-complete for those functions that may be redundant
   b. Allow for data entry to be checked for validity in particular field of entry.

(LT) Harmony is transitioning to a web based application. During this transition incorporate a user login with the following features:

1. Log entries by each user
2. Allow for hierarchal levels of supervision
3. Incorporate statistical quality control features and alarms for supervisors and managers
4. Incorporate collaborative tools which allow users to communicate with each other and seek approvals for policy issues.
5. Provide various levels of reporting for both supervisors and managers with alarms when processes are out of control.
6. Allow for remote login.

(LT) Establish VPN (Virtual Private Network) with contracted service providers. Using the web based application allow correspondence and questions between case workers and contract agency to be conducted in Harmony. This will allow for a case management tracking system.

(ST/LT) CEAGH suggests that DFS allocate the manpower to merge the three separate databases into a database with the same structure as Harmony. While the archived data does not need to be part of the current Harmony system, the data will be available for trend analysis in the future.

APPENDIX I

As noted in the Conclusions, Recommendations and Metrics section, FCDFS may want to explore ways to contract with a cleaning service to handle all light housekeeping services for clients. These agencies provide transportation for their employees, thus eliminating a problem area. This would allow the department to compare the costs and benefits of the current providers with other cleaning service companies. Two such examples of agencies providing cleaning services are Molly Maids and Comfort Keepers. Molly Maids provides cleaning services on a weekly, monthly, or bi-monthly schedule. Comfort Keepers, a non-medical home care agency, provides light housekeeping services and transportation. A contractual agreement with this company would allow clients in need of transportation an available option.

CEAGH made contact with both of these agencies serving the Fairfax County area and received preliminary information on their respective services. There are two Molly Maids' offices that each serve different parts of Fairfax County and the City of Fairfax, and one office that serves part of Falls Church. Molly Maids provides cleaning supplies and their employees always travel in teams of two. Current rates are as follows:

- The initial cleaning (required) is charged by the hour and ranges from $68-72/hour.
- A monthly cleaning for small apartments (based on other senior housing sites they serve) is approximately $55/month (one visit per month).
- Homes with several bedrooms and bathrooms would cost more.

Both Northern Virginia offices noted that they currently provide cleaning services for seniors in apartments and retirement communities and would be available to discuss pricing in more detail once they visited the property.[36] One particular advantage to Molly Maids is that the company provides a vehicle for all employees. In light of the challenges home-based care aides are currently experiencing with transportation, contracting with Molly Maids may alleviate some of these concerns.

Currently, Comfort Keepers of Fairfax has a contractual agreement with Fairfax County for the "Seniors on the Go" Project. This project provides an escorted transportation service within the county and is need-based, allowing for approximately three trips per month per client. Essentially, Comfort Keepers provides all of the personal care services that FCDFS current contract agencies provide, with the addition of transportation services for clients. Comfort Keepers requires a minimum of two hours per visit. The 2004 rates for home-based care services are as follows:

- Less than four hours per week is $20 per hour
- Five to ten hours per week is $16.00 per hour
- 11-20 hours per week is $15.75 per hour
- 21-30 hours per week is $15.50 per hour

[36] Information based on phone conversations with Northern Virginia offices serving parts of Fairfax County area, 1/11/04.

- 31-50 hours per week is $15.25 per hour
- 51 or more hours per week is $14.75 per hour.[37]

A cost comparison is very difficult to make because FCDFS is not able to extract numbers of clients and cost per client for those receiving housekeeping services. Table H.1 provides an overview of the housekeeping costs, both based on current contracts, and on these two example agencies. It is also possible that as contractual agreements with these other agencies are explored, fees that are quoted could be reduced due to the large number of clients in need of housekeeping services.

Table H.1. Current and Potential Housekeeping Service Costs

	Current Task-Based Light Housekeeping Services[38]	Current Hourly-Based Light Housekeeping Services[39]	Example 1: Molly Maids[40]	Example 2: Comfort Keepers[41]
Amount	$25/cleaning	$15/hour	$50/month for one cleaning, less per visit if more cleanings per month	$15.75/hour if 11-20 hours per week is provided (FCDFS 2003 clients received average of 14 hours/week
Time to Perform Services	~ 2 hours	~ 2 hours	Depends on property	Depends on property
Frequency	Generally weekly	Generally weekly, and may be performed any time that the aide is in the home	Choice of: weekly, bi-monthly, or monthly	Choice of: weekly, bi-monthly, or monthly, and as needed
Advantages	Can expect to expend $100/month	Can expect to expend $120/month	Employees have reliable transportation	Aides can provide transportation for clients, in addition to other home-based care services

[37] Information based on phone conversation and email contact with Laura Pierce, Co-owner, Comfort Keepers of Fairfax, 2/5/04.
[38] Information provided by FCDFS.
[39] Information provided by FCDFS.
[40] Information based on phone conversations with Northern Virginia offices serving parts of Fairfax County area, 1/11/04.
[41] Information based on phone conversation and email contact with Laura Pierce, Co-owner, Comfort Keepers of Fairfax, 2/5/04.